

A PROFILE OF HEALTH AMONG WORCESTER ADULTS, 1997 – 1999

Results from the Massachusetts Behavioral Risk Factor Surveillance System

HEALTH SURVEY PROGRAM
BUREAU OF HEALTH STATISTICS, RESEARCH AND EVALUATION
MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

MARCH 2002

Massachusetts Department of Public Health

**Health Survey Program
Bureau of Health Statistics, Research, and Evaluation**

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March 2002

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HIGHLIGHTS

This report summarizes selected results from 1,313 Worcester respondents participating in the 1997, 1998, and 1999 Massachusetts BRFSS. The following represent selected areas of interest for Worcester, as it compares to the state-wide average and results from previous years.

Worcester was doing about the same as the state overall with regard to the following health risks and behaviors:

- ❖ fair or poor overall health
- ❖ adults with no health insurance
- ❖ adults with diabetes
- ❖ adults with high cholesterol
- ❖ clinical breast exam in past two years, among all women

Worcester was not doing as well as the state overall with regard to the following health risks and behaviors:

- ❖ current smoking
- ❖ dental visit in the past year
- ❖ support for smoke-free restaurants
- ❖ blood stool test, among adults ages 50 and older
- ❖ Pap smear in the past three years, among all women

Worcester has improved since 1994-1996 with regard to the following health risks and behaviors:

- ❖ fair or poor overall health
- ❖ attempts to quit smoking in the past year, among current smokers
- ❖ support for smoke-free restaurants
- ❖ live in a household where smoking was not allowed
- ❖ ever tested for HIV, among adults ages 18 to 64

SUMMARY OF BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM RESULTS: WORCESTER, 1997 - 1999

	Year¹	1997 – 1999 Worcester	1997 – 1999 Massachusetts	1997 – 1999 U.S.
OVERALL HEALTH MEASURES				
Fair/Poor Health	97, 98, 99	12.1	11.2	13.0
15+ Days Poor Mental Health	97, 98, 99	8.8	8.0	
15+ Days Activities Limited	97, 98, 99	4.7	4.9	
15+ Days Depressed	98, 99	7.7	6.3	
15+ Days Pain	98, 99	6.6	7.0	
15+ Days Full of Energy	98, 99	70.9	72.0	
ACCESS AND UTILIZATION				
No Health Insurance	97, 98, 99	6.8	6.4	
Did Not See a Doctor Due to Cost	97, 98, 99	8.7	7.6	9.6
Dental Visit in Past Year	98, 99	71.1	76.8	
6+ Teeth Missing Due to Decay	98, 99	23.6	17.8	
RISK FACTORS				
Current Smoker	97, 98, 99	26.2	20.6	22.9
Made Quit Attempt < 1 Year	97, 98, 99	61.7	59.8	49.2
Heavy Smoker	97, 98, 99	5.4	3.5	
Support for Smoke-free Restaurants	97, 98, 99	51.6	55.2	
Do Not Allow Smoking At Home	97, 98, 99	52.7	59.3	
5+ Drinks on One Occasion Past Month	97, 99	20.0	17.7	14.7
60+ Drinks Past Month	97, 99	5.9	4.2	3.3
Driving Under the Influence	97, 99	3.8	2.7	4.3
Overweight (HP 2010)	97, 98, 99	50.5	49.1	
Very Overweight (HP 2010)	97, 98, 99	14.1	13.9	
PREVENTIVE BEHAVIORS				
Blood Pressure Checked Past 2 Years	97, 99	95.8	95.9	94.5
Ever Told Had High Blood Pressure	97, 99	19.1	20.7	23.5
Had Blood Cholesterol Checked Past 5 Years	97, 99	76.6	76.1	69.2
Ever Told Had High Cholesterol	97, 99	25.2	27.0	29.4
Blood Stool Test Ever, Age 50+	97, 99	50.9	43.5	30.7
Blood Stool Test Past 2 Years, Age 50+	97, 99	41.0	34.1	25.1
Sigmoidoscopy/Proctoscopy < 5 years, Age 50+	97, 99	32.6	33.9	

¹ Survey years in which health topics were included

**SUMMARY OF BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM RESULTS:
WORCESTER, 1997 – 1999 (CONTINUED)**

	Year	1997 – 1999 Worcester	1997 – 1999 Massachusetts	1997 – 1999 U.S.
HEALTH CONDITIONS				
Diabetes	97, 98, 99	4.5	4.4	5.2
Heart Disease	97, 98	8.3	6.2	
Osteoporosis, Women Age 45+	97, 98	13.1	11.4	
With Disability or Limitation	97, 98, 99	19.0	16.4	
With Disability or Limitation AND Need Help With Activities	97, 98, 99	4.9	4.8	
WOMEN'S HEALTH				
Mammogram Ever, Age 40+	97, 98, 99	89.5	90.5	84.7
Mammogram Past 2 Years, Age 50+	97, 98, 99	82.3	82.8	75.2
Clinical Breast Exam Past 2 Years	97, 98, 99	82.0	82.8	76.9
Pap Smear Ever	97, 98, 99	94.7	93.5	94.9
Pap Smear Past 3 Years	97, 98, 99	90.5	87.8	85.1
Intimate Partner Abuse, Past 12 Months, Women Ages 18-59	98, 99	5.5	5.5	
HIV / AIDS, ADULTS AGES 18 TO 64				
High / Medium Risk of Infection	97, 98, 99	9.1	7.3	6.3
Ever Tested for HIV	97, 98, 99	47.0	43.6	
Tested for HIV Past Year	97, 98, 99	14.7	13.3	

INTRODUCTION

WHAT IS THE BRFSS?

The BRFSS collects data on a variety of health characteristics, risk factors for chronic conditions, and preventive behaviors.

The Behavioral Risk Factor Surveillance System (BRFSS) is a continuous, random-digit-dial, telephone survey of adults age 18 and older, and is conducted in all states as a joint collaboration between the U.S. Centers for Disease Control and Prevention (CDC) and state departments of health. The survey has been in the field in Massachusetts since 1986. The BRFSS collects data on a variety of health characteristics, risk factors for chronic conditions, and preventive behaviors. The information obtained in this survey assists in

identifying the need for health interventions, monitoring the effectiveness of existing intervention and prevention programs, developing health policy and legislation, and measuring progress toward attaining state and national health objectives.

ABOUT THIS REPORT

This report summarizes selected results from 1,313 Worcester respondents participating in the 1997, 1998, and 1999 Massachusetts BRFSS. For each topic, we first present overall percentage estimates of key variables followed by percentage estimates in specific demographic groups. This section allows us to assess whether there are specific groups of adults who are at risk for chronic conditions or who are more likely to participate in healthy behaviors. It is important to note that these data are not adjusted for age or other differences across these characteristics; for example, adults of lower income may be more likely to report fair or poor health. However, age is a strong predictor of health status, and adults of lower income are more likely to be older. Therefore, some of the differences in health status are actually due to differences in age.

Following the core section, we compare the 1997 to 1999 results in Worcester to those of Boston, Springfield, Lawrence/Lowell, and Fall River/New Bedford. The estimates for Worcester are also compared with state-wide average. Additionally, wherever possible, we compare Worcester's estimates to the goals and objectives set by Healthy People 2010*, as well as the U.S. median* estimate for 1997 to 1999. For national comparisons, we provide the median percent for all fifty states, the District of Columbia, and Puerto Rico. In cases where there are only U.S. estimates for two of the three years, the mean of those two values serve as the U.S. estimate for comparison purposes. If none or only one value was available for the three year span, the corresponding U.S. estimate for that variable has been omitted. Following the city to city comparisons, wherever available, we provide a comparison to the 1994-1996 Worcester estimate, as reported in the BRFSS report for those years. The full-text version of the 1994-1996 Worcester report is currently available on our website, at <http://www.state.ma.us/dph/bhsre/CDSP/brfss/Brfss.htm>.

This report provides estimates for 1997 to 1999 data, compares Worcester with other selected cities, Massachusetts estimates, U.S. data and Healthy People 2010 Objectives.

Due to a limited number of respondents, certain demographic characteristics have required consolidating strata or groups in order to provide more accurate estimates and reduce variability. For example the race / ethnicity groups have been divided into two groups in all cases (white non-Hispanic, all other); we also report the more specific groupings of Black non-Hispanic, Hispanic, and other ethnicity, whenever the data

could support these subcategories. Additionally, for certain variables, age groupings were consolidated to reflect the current screening recommendations, e.g. Pap smear in the past three years.

BRFSS METHODOLOGY

The Massachusetts BRFSS is a random-digit-dial (RDD) telephone survey of non-institutionalized Massachusetts adults residing in households with telephones, and from 1997 to 1999 was conducted by ORC Macro, Inc. The sampling of the survey population involved a list-assisted, stratified RDD sampling frame, which assures that Massachusetts households with telephone numbers assigned after publication of the current directories as well as households with deliberately unlisted numbers are included in the sample in appropriate proportions. This methodology is designed to more efficiently and validly reach all telephone equipped households, and to provide population estimates of health conditions and behaviors.

The BRFSS is a random telephone survey of Massachusetts adults ages 18 and older.

Telephone numbers were randomly selected, and multiple attempts were made to reach each household. To be eligible to participate in this survey, the household had to be occupied by at least one adult age 18 or older. Institutions, group quarters, and temporary residences lived in for less than one month per year were excluded from the survey. In order to provide estimates of health at the local level, additional interviews were conducted among adults residing in the following major cities in the Commonwealth: Boston, Worcester, Springfield, Lawrence, Lowell, Fall River, and New Bedford.

Once a household was contacted, one adult was randomly selected to complete the interview. No proxy respondents or substitutions were allowed in the event that the selected adult was unwilling or unable to complete the interview for any reason such as language barriers, disability, or lack of availability. In

From 1997 to 1999, 15,956 adults participated in the BRFSS. All data are weighted, and provide population-based estimates of health among Massachusetts adults.

addition to English, the survey was conducted in Spanish and Portuguese. From 1997 to 1999, 15,956 adults completed the survey. Data were weighted to reflect the probability of selection and differential participation by sex and age. All analyses presented in this report were conducted using SUDAAN and SAS software and are considered estimates for the adult population in Massachusetts. For each estimate in the core section we include a 95% confidence

interval* in order to assess the variability of the data. Since we are taking a random sample of the population, and not a complete census, 95% confidence intervals provide a range of values that most likely contain the true percent estimates for the population.

There are some limitations that should be considered when interpreting results from the BRFSS. Households that do not have a telephone do not have the opportunity to participate in the survey. Although only 2% of Massachusetts's households lack a telephone, almost 10% of households living below poverty lack a phone based on 1990 Census data. A substantial percentage of households contacted to participate in the BRFSS did not complete the survey. Although households were telephoned on repeated occasions, interviewers were not always able to reach the randomly selected adult in the household. In addition, some adults contacted did not agree to participate in the survey. We would be concerned about a bias in the results if the respondents who participated in the survey differed significantly from those not included in the survey. The weighting of the data partially takes into account this non-response.

* see glossary

All data collected by the BRFSS are based on self-report from the respondents. By its nature, self-reported data may be subject to error for several reasons. An individual may have difficulty remembering events that occurred a long time ago or the frequency of certain behaviors. Some respondents may over-report socially desirable behaviors, while underreporting behaviors they perceive to be less acceptable. Finally, because the BRFSS surveys a randomly selected sample of Massachusetts's adults, these results may differ from another random sample to some extent simply due to chance.

DEMOGRAPHIC PROFILE OF BRFSS SURVEY RESPONDENTS: WORCESTER, 1997-1999

From 1997 to 1999, 1,313 Worcester residents age 18 and older completed the Massachusetts Behavioral Risk Factor Surveillance System. The BRFSS data are weighted to account for the probability of selection related to the number of telephones in the house, number of adults, and the city of residence. In addition, the data are post-stratified to the 1997 to 1999 Massachusetts population estimates by age and gender.

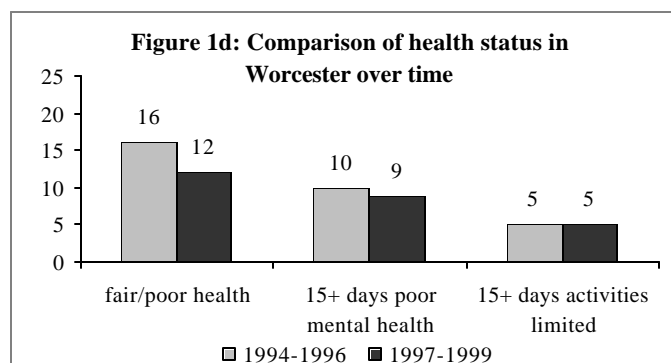
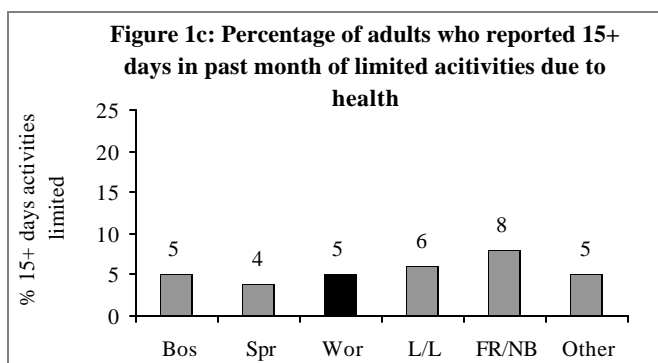
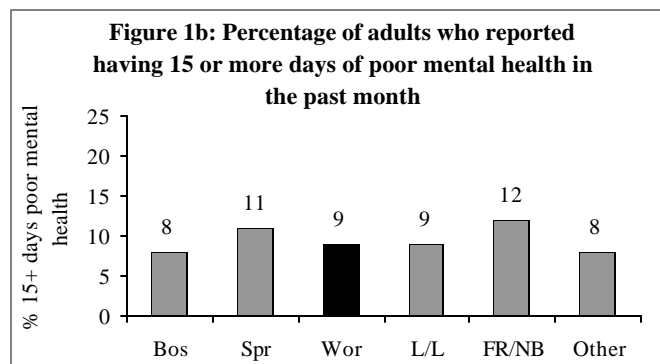
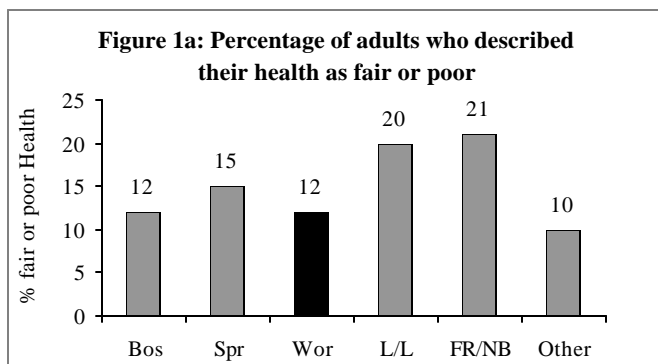
	UNWEIGHTED SAMPLE SIZE N	WEIGHTED PERCENT (%)
OVERALL	1313	100
GENDER		
MALE	531	45.1
FEMALE	782	54.9
AGE GROUP		
18 - 29	291	26.6
30 - 44	434	30.0
45 - 64	304	22.3
65 AND OLDER	265	21.1
RACE / ETHNICITY		
WHITE, NON-HISPANIC	1077	85.4
ALL OTHER	221	14.6
BLACK, NON-HISPANIC	48	3.3
HISPANIC	117	8.2
OTHER ETHNICITY	56	3.2
EDUCATION		
< HIGH SCHOOL	149	11.0
HIGH SCHOOL GRAD	427	33.7
COLLEGE 1-3 YEARS	364	27.5
COLLEGE 4+ YEARS	367	27.8
HOUSEHOLD INCOME		
< \$25,000	378	34.9
\$25-34,999	186	18.3
\$35-49,999	197	20.6
\$50,000+	271	26.3

SECTION 1: OVERALL HEALTH STATUS

All respondents were asked to describe their overall health status as excellent, very good, good, fair, or poor, and they were also asked on how many days in the previous month their mental health had been poor, and how many days physical or mental health had limited their daily activities.

During 1997 to 1999, 12% of Worcester adults described their health as fair or poor. Older adults and adults with lower education or income were more likely to report fair or poor health. Hispanics were more likely than White non-Hispanics to report fair or poor health. Overall, 9% of Worcester adults had experienced 15 or more days of poor mental health in the previous month. White non-Hispanics were less likely to report poor mental health than Hispanics. Adults with a college degree were less likely have had 15 or more days of poor mental health in the past month. Of all Worcester adults, 5% were limited in their usual activities by poor physical or mental health for 15 or more days in the previous month. The percentage of adults who had difficulty with their daily activities due to their health decreased with increasing education and income.

PHYSICAL AND MENTAL HEALTH AMONG WORCESTER ADULTS, 1997-1999 (PERCENTAGES AND 95% CONFIDENCE INTERVALS)						
	FAIR OR POOR HEALTH		15+ DAYS POOR MENTAL HEALTH IN PAST MONTH		15+ DAYS HEALTH LIMITED ACTIVITIES	
	%	95% CI	%	95% CI	%	95% CI
OVERALL	12.1	10.1 – 14.1	8.8	6.7 – 10.9	4.7	3.6 – 6.2
GENDER						
MALE	11.3	8.3 – 14.3	7.8	5.1 – 10.4	4.8	3.2 – 7.1
FEMALE	12.8	10.2 – 15.4	9.6	6.5 – 12.8	4.7	3.2 – 6.8
AGE GROUP						
18-29	6.7	3.2 – 10.3	10.1	5.9 – 14.3	3.5	1.6 – 7.3
30-44	7.2	4.6 – 9.7	9.3	6.4 – 12.2	4.3	2.7 – 6.7
45-64	15.6	11.1 – 20.0	8.7	2.5 – 15.0	4.1	2.3 – 7.3
65 AND OLDER	22.3	16.6 – 28.1	6.3	2.9 – 9.7	7.9	5.0 – 12.3
RACE / ETHNICITY						
WHITE, NON-HISP.	11.0	9.0 – 13.0	7.7	5.5 – 9.9	4.7	3.5 – 6.3
ALL OTHER	17.9	11.4 – 24.5	14.2	7.7 – 20.7	5.0	2.4 – 10.1
BLACK, NON-HISP.	9.0	0.5 – 17.5	8.4	0.3 – 16.6	4.7	1.2 – 16.9
HISPANIC	20.9	11.6 – 30.2	19.3	9.0 – 29.6	6.6	2.7 – 15.3
EDUCATION						
< HIGH SCHOOL	23.4	15.9 – 30.9	13.6	7.1 – 20.2	8.2	4.5 – 14.5
HIGH SCHOOL	16.2	12.2 – 20.2	9.6	5.0 – 14.1	6.9	4.6 – 10.2
COLLEGE 1-3 YRS	10.0	6.4 – 13.6	10.8	7.1 – 14.5	4.3	2.5 – 7.2
COLLEGE 4+ YRS	4.7	2.4 – 7.0	4.0	1.7 – 6.4	1.3	0.5 – 3.3
HOUSEHOLD INCOME						
< \$25,000	18.8	14.2 – 23.4	12.9	8.7 – 17.1	6.8	4.5 – 10.2
\$25-34,999	8.6	4.4 – 12.8	8.2	3.5 – 12.8	5.9	3.1 – 10.8
\$35-49,999	5.1	1.8 – 8.3	10.4	2.3 – 18.5	3.2	1.4 – 7.1
\$50,000+	3.9	1.1 – 6.7	5.3	2.4 – 8.1	2.3	0.9 – 5.6



Compared with the state as a whole, a similar percentage of Worcester adults reported their health to be fair or poor. Among the selected cities, the percentage of adults in fair or poor health ranged from 12% in Boston and Worcester to 21% in Fall River/New Bedford (Figure 1a). Compared with the state as a whole, a similar percentage of Worcester adults reported having 15 or more days of poor mental health in the past month.

The percentage of adults reporting 15 or more days of poor mental health in the past month ranged from 8% in Boston to 12% in Fall River/New Bedford (Figure 1b). Compared with the state as a whole, a similar percentage of Worcester adults reported having had 15 or more days in the past month on which their usual activities were limited due to poor health. Of the selected cities, the percentage of adults whose health limited their activities 15 or more days in the past month ranged from 4% in Springfield to 8% in Fall River/New Bedford (Figure 1c).

CITY LEGEND

Bos = Boston
 Spr = Springfield
 Wor = Worcester
 L/L = Lawrence/Lowell
 FR/NB = Fall River/New Bedford
 Other = Other Localities

Compared with 1994 to 1996, the percentage of Worcester adults who reported fair to poor health has decreased during 1997-1999 (Figure 1d). Compared with 1994-1996, the percentage of Worcester adults who reported 15 or more days of poor mental health, and the percentage with 15 or more days of activities limited by health in the past month were similar during 1997-1999.

Comparison with State-wide data, National data, and Healthy People 2010 Objectives

	FAIR / POOR HEALTH		15+ DAYS POOR MENTAL HEALTH PAST MONTH		15+ DAYS HEALTH LIMITED ACTIVITIES PAST MONTH	
	%	95% CI	%	95% CI	%	95% CI
Worcester %	12.1%	10.1 – 14.1%	8.8%	6.7 – 10.9%	4.7%	3.4 – 6.0%
Massachusetts %	11.2%	10.5 – 11.8%	8.0%	7.4 – 8.6%	4.9%	4.5 – 5.4%
US Median %	13.0%	N/A	N/A	N/A	N/A	N/A
Healthy People 2010	N/A	N/A	N/A	N/A	N/A	N/A

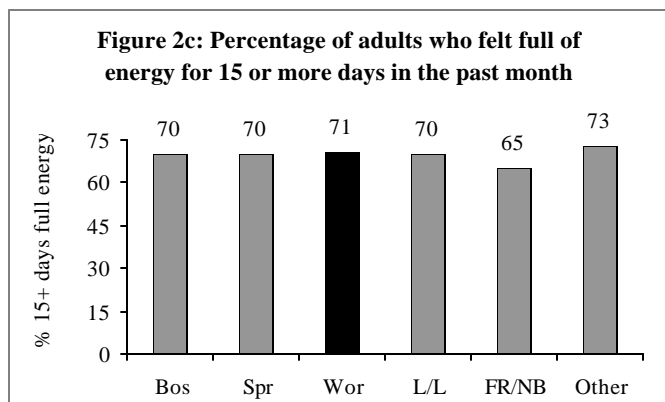
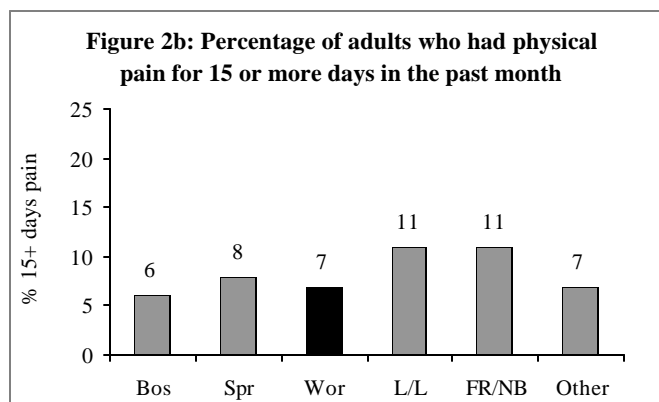
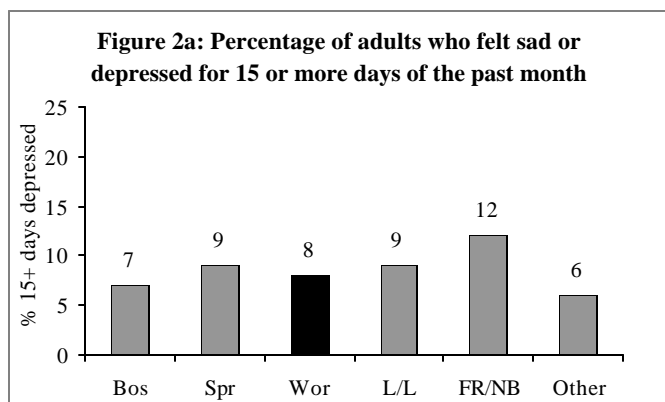
SECTION 2: QUALITY OF LIFE

All respondents were asked to self-assess measures of quality of life. Respondents were asked on how many days in the previous month they had felt sad, blue or depressed, how many days pain made it hard to do usual activities, and how many days they felt very healthy and full of energy.

During 1998 to 1999, 8% of Worcester adults said that they had felt depressed for at least 15 days in the past month. The percentage of adults who reported feeling depressed for 15 or more days of the month decreased with increasing age and income. Hispanics were more likely than White non-Hispanics to have felt depressed for 15 or more days in the past month. Seven percent of Worcester adults stated that during the past month they had experienced pain that made it hard to do their usual activities for at least 15 days. The percentage of adults who reported 15 or more days of pain in the past month decreased with increasing income and education. Of all Worcester adults, 71% reported that they felt full of energy for at least 15 days of the past month. Adults ages 45 to 64 were more likely to report 15 or more energy-filled days. The percentage of adults who reported feeling full of energy for over half of the past month increased with increasing education and income.

QUALITY OF LIFE AMONG WORCESTER ADULTS, 1998-1999 <i>(PERCENTAGES AND 95% CONFIDENCE INTERVALS)</i>						
	15+ DAYS DEPRESSED		15+ DAYS PAIN		15+ DAYS FULL OF ENERGY	
	%	95% CI	%	95% CI	%	95% CI
OVERALL	7.7	5.6 – 9.8	6.6	4.8 – 8.4	70.9	67.3 – 74.5
GENDER						
MALE	5.7	2.8 – 8.5	6.5	3.7 – 9.2	73.4	67.9 – 78.8
FEMALE	9.5	6.4 – 12.6	6.8	4.4 – 9.2	68.6	63.9 – 73.4
AGE GROUP						
18-29	11.1	5.6 – 16.6	3.6	0.6 – 6.6	68.8	61.2 – 76.5
30-44	9.0	5.6 – 12.4	6.0	3.1 – 8.9	70.1	63.7 – 76.4
45-64	4.7	1.2 – 8.1	10.1	5.5 – 14.7	80.9	75.0 – 86.7
65 AND OLDER	4.6	0.8 – 8.5	8.4	3.8 – 13.0	63.6	55.0 – 72.3
RACE / ETHNICITY						
WHITE, NON-HISP.	6.7	4.6 – 8.9	7.2	5.1 – 9.2	71.3	67.4 – 75.2
ALL OTHER	12.6	5.6 – 19.7	4.2	1.1 – 7.4	69.2	60.0 – 78.4
BLACK, NON-HISP.	†		†		†	
HISPANIC	16.9	6.4 – 27.3	5.8	1.0 – 10.5	69.9	57.8 – 81.9
EDUCATION						
< HIGH SCHOOL	12.1	5.0 – 19.2	13.5	6.0 – 21.0	65.4	53.8 – 77.0
HIGH SCHOOL	7.0	3.6 – 10.4	6.8	3.4 – 10.2	67.5	60.7 – 74.4
COLLEGE 1-3 YRS	8.4	4.0 – 12.8	8.4	4.5 – 12.2	70.6	63.7 – 77.4
COLLEGE 4+ YRS	6.4	2.5 – 10.2	2.6	0.6 – 4.5	77.6	71.9 – 83.3
HOUSEHOLD INCOME						
< \$25,000	14.4	8.7 – 20.1	9.5	5.5 – 13.4	64.5	57.0 – 72.1
\$25-34,999	7.8	1.3 – 14.3	6.4	1.8 – 11.1	67.3	57.0 – 77.6
\$35-49,999	5.1	1.6 – 8.6	6.0	2.1 – 9.9	74.1	66.2 – 82.0
\$50,000+	4.1	0.9 – 7.3	3.0	0.4 – 5.6	83.0	76.6 – 89.5

† Insufficient sample size



CITY LEGEND

Bos	= Boston
Spr	= Springfield
Wor	= Worcester
L/L	= Lawrence/Lowell
FR/NB	= Fall River/New Bedford
Other	= Other Localities

Compared with the state as a whole, a similar percentage of Worcester adults have felt depressed for the majority of the past month. The percentage of adults who said that they had felt sad, blue, or depressed for at least 15 days in the past month ranged from 7% in Boston to 12% in Fall River/New Bedford (Figure 2a). Compared with the state as a whole, a similar percentage of Worcester adults reported that pain had made it hard to do their usual activities for at least 15 days of the previous month. The percentage of adults who had pain ranged from 6% in Boston to 11% in Fall River/New Bedford and Lawrence/Lowell (Figure 2b). Compared with the state as a whole, a similar percentage of Worcester adults felt full of energy for most of the previous month. Among the selected cities, adults reporting 15 or more days of full energy ranged from 65% in Fall River/New Bedford to 71% in Worcester (Figure 2c).

Questions on quality of life were not asked in the 1994 to 1996 surveys and therefore data on these measures are not available for comparison.

Comparison with State-wide data, National data, and Healthy People 2010 Objectives

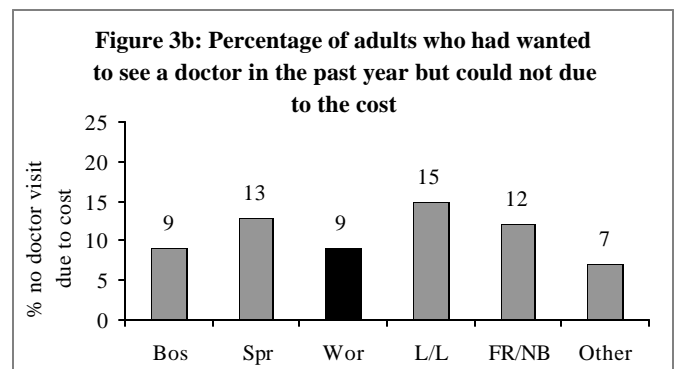
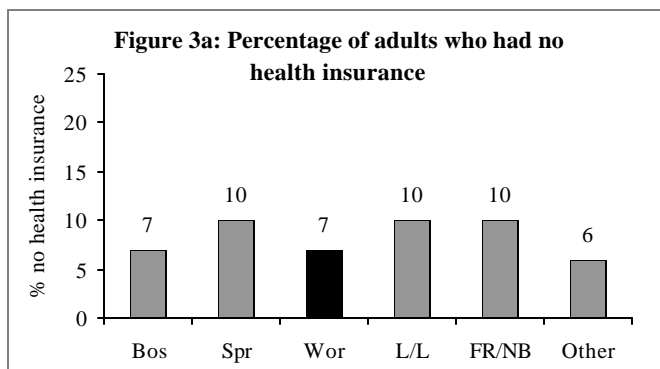
	15+ DAYS DEPRESSED		15+ DAYS PAIN		15+ DAYS FULL OF ENERGY	
	%	95% CI	%	95% CI	%	95% CI
Worcester %	7.7%	5.6 – 9.8%	6.6%	4.8 – 8.4%	70.9%	67.3 – 74.5%
Massachusetts %	6.3%	5.8 – 6.9%	7.0%	6.3 – 7.6%	72.0%	70.8 – 73.2%
US Median %	N/A	N/A	N/A	N/A	N/A	N/A
Healthy People 2010	N/A	N/A	N/A	N/A	N/A	N/A

SECTION 3: HEALTH ACCESS AND UTILIZATION

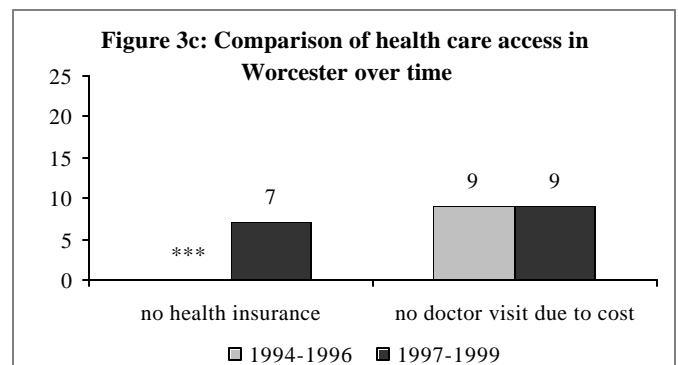
All respondents were asked whether they currently had health insurance and whether they were unable to see a doctor in the past year due to cost.

During 1997 to 1999, 7% of Worcester adults reported having no health insurance coverage. The percentage of adults with no health insurance decreased with increasing age and education. Adults with lower income were more likely to be uninsured. Overall, 9% of Worcester adults had not seen a doctor in the previous year due to the cost. The percentage of adults who had not visited the doctor due to cost decreased with increasing education and income levels. Hispanics were more likely than White non-Hispanics to have not seen a doctor in the past year due to the cost.

HEALTH ACCESS AND UTILIZATION AMONG WORCESTER ADULTS, 1997-1999 <i>(PERCENTAGES AND 95% CONFIDENCE INTERVALS)</i>				
	NO HEALTH INSURANCE		DID NOT SEE DOCTOR DUE TO COST	
	%	95% CI	%	95% CI
OVERALL	6.8	5.2 – 8.4	8.7	7.0 – 10.4
GENDER				
MALE	8.1	5.5 – 10.6	9.1	6.5 – 11.7
FEMALE	5.7	3.7 – 7.8	8.3	6.2 – 10.5
AGE GROUP				
18-29	9.4	5.4 – 13.3	11.1	7.0 – 15.2
30-44	8.0	5.2 – 10.8	8.6	5.9 – 11.4
45-64	7.7	4.2 – 11.2	9.1	5.7 – 12.5
65 AND OLDER	0.4	0.0 – 1.0	5.7	2.6 – 8.7
RACE / ETHNICITY				
WHITE, NON-HISP.	6.8	5.1 – 8.6	7.6	5.9 – 9.3
ALL OTHER	5.9	2.7 – 9.2	15.6	9.7 – 21.5
BLACK, NON-HISP.	6.2	0.1 – 12.4	10.8	1.9 – 19.6
HISPANIC	3.7	0.6 – 6.8	20.2	11.0 – 29.4
EDUCATION				
< HIGH SCHOOL	13.2	6.5 – 19.9	14.0	8.0 – 20.0
HIGH SCHOOL	7.4	4.5 – 10.3	10.4	7.2 – 13.7
COLLEGE 1-3 YRS	5.5	2.9 – 8.0	7.9	4.8 – 10.9
COLLEGE 4+ YRS	4.4	2.0 – 6.8	5.0	2.5 – 7.5
HOUSEHOLD INCOME				
< \$25,000	11.2	7.4 – 15.0	14.4	10.3 – 18.6
\$25-34,999	5.2	1.3 – 9.1	8.6	4.0 – 13.2
\$35-49,999	6.8	2.9 – 10.8	6.9	3.2 – 10.6
\$50,000+	2.7	0.7 – 4.6	3.2	1.1 – 5.3



Compared with the state as a whole, a similar percentage of Worcester adults reported having no health insurance coverage. Among the selected cities, adults reporting no health insurance ranged from 7% in Boston and Worcester to 10% in Springfield, Fall River/New Bedford, and Lawrence/Lowell (Figure 3a). Compared with the state as a whole, a similar percentage of Worcester adults reported having not visited the doctor in the past year due to the cost. The percentage of adults who had not been to the doctor in the previous year due to the cost ranged from 9% in Boston and Worcester to 15% in Lawrence/Lowell (Figure 3b).



CITY LEGEND

Bos	= Boston
Spr	= Springfield
Wor	= Worcester
L/L	= Lawrence/Lowell
FR/NB	= Fall River/New Bedford
Other	= Other Localities

*** Health insurance was calculated differently in 1999 compared with previous BRFSS reports. In previous reports respondents were classified as having no insurance if they answered no to the following question: “Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicare?” In 1999, respondents were classified as having no insurance if they responded no to this question and no to the following question: “There are some types of health insurance you may not have considered: Please tell me if you have any of the following:[respondent read list of types of insurance]”. Estimates generated for this report are therefore not comparable to estimates generated for earlier BRFSS reports. The effect of adding the second question was to lower the percentage of Worcester adults with no health insurance from 8% to 7% during 1997-1999.

Compared with 1994-1996, the percentage of Worcester adults who did not see the doctor in the past year due to the cost was similar during 1997-1999 (Figure 3c). Worcester did not meet the Healthy People 2010 Objective for the percentage of adults who have no health insurance.

Comparison with State-wide data, National data, and Healthy People 2010 Objectives

	NO HEALTH INSURANCE		DID NOT SEE DOCTOR DUE TO COST	
	%	95% CI	%	95% CI
Worcester %	6.8%	5.2 – 8.4%	8.7%	7.0 – 10.4%
Massachusetts %	6.4%	5.8 – 7.0%	7.6%	7.0 – 8.2%
US Median %	N/A	N/A	9.6%	N/A
Healthy People 2010	0.0%	N/A	N/A	N/A

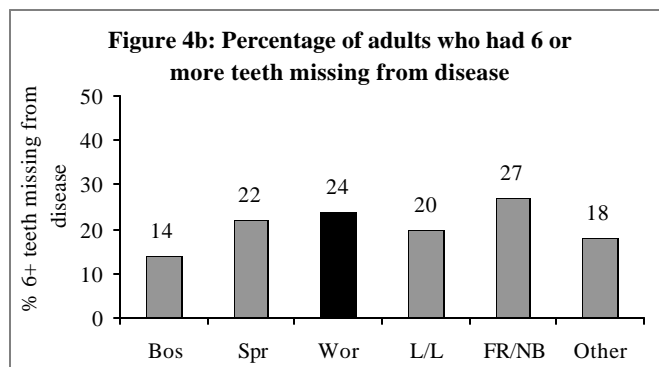
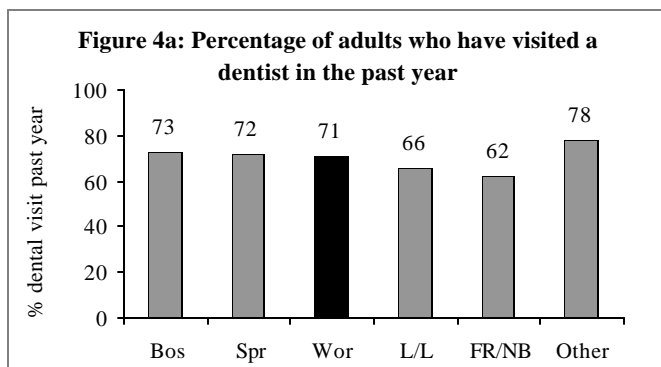
SECTION 4: DENTAL HEALTH

All respondents were asked questions related to dental health. Respondents were asked when they had last visited a dentist and how many teeth they had lost due to decay or gum disease.

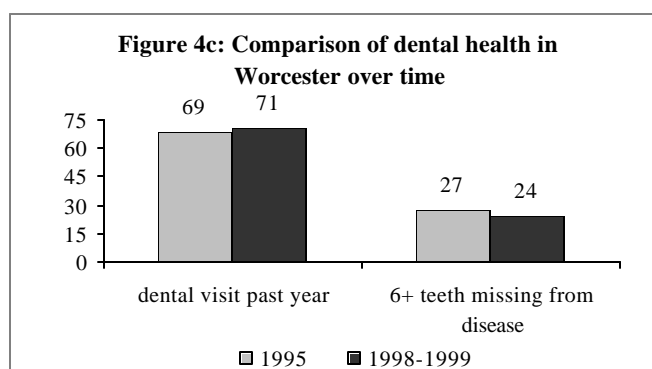
During 1998 to 1999, 71% of Worcester adults reported having gone to the dentist in the previous year. Adults of higher education and income were more likely to have been to the dentist in the previous year. Adults ages 65 and older were less likely to have been to the dentist in the past year. Overall, 24% of Worcester adults reported having six or more teeth missing due to disease or decay, and the percentage increased with age. Women and adults of lower education or income levels were more likely to have six or more teeth missing due to disease or decay. White non-Hispanics were more likely than Hispanics to have six or more teeth missing.

DENTAL HEALTH AMONG WORCESTER ADULTS, 1998-1999 (PERCENTAGES AND 95% CONFIDENCE INTERVALS)				
	DENTAL VISIT IN PAST YEAR		6 OR MORE TEETH MISSING FROM DISEASE	
	%	95% CI	%	95% CI
OVERALL	71.1	67.5 – 74.7	23.6	20.3 – 27.0
GENDER				
MALE	70.1	64.7 – 75.6	19.5	14.7 – 24.3
FEMALE	71.9	67.1 – 76.7	27.3	22.7 – 31.8
AGE GROUP				
18-29	72.7	65.3 – 80.1	2.0	0.2 – 3.7
30-44	75.0	69.0 – 81.0	12.3	7.2 – 17.3
45-64	74.3	67.8 – 80.8	33.3	26.2 – 40.4
65 AND OLDER	58.8	49.9 – 67.7	59.5	51.0 – 68.0
RACE / ETHNICITY				
WHITE, NON-HISP.	71.5	67.5 – 75.4	26.7	22.9 – 30.5
ALL OTHER	67.9	58.7 – 77.1	7.3	3.4 – 11.3
BLACK, NON-HISP.	†		†	
HISPANIC	64.6	52.1 – 77.1	6.5	1.7 – 11.3
EDUCATION				
< HIGH SCHOOL	49.7	37.6 – 61.7	51.1	38.9 – 63.2
HIGH SCHOOL	67.7	61.3 – 74.2	33.3	26.8 – 39.7
COLLEGE 1-3 YRS	71.1	64.2 – 78.0	15.9	11.0 – 20.7
COLLEGE 4+ YRS	82.8	77.0 – 88.5	9.7	4.6 – 14.7
HOUSEHOLD INCOME				
< \$25,000	61.1	53.5 – 68.7	33.9	26.7 – 41.1
\$25-34,999	61.6	50.9 – 72.4	19.2	11.5 – 26.9
\$35-49,999	74.8	65.9 – 83.7	18.6	10.1 – 27.0
\$50,000+	85.8	79.5 – 92.1	14.6	7.7 – 21.4

† Insufficient sample size



Compared with the state as a whole, Worcester adults were less likely to have visited the dentist in the past year. Among the selected cities, the percentage of adults who had visited a dentist in the previous year ranged from 62% in Fall River/New Bedford to 73% in Boston (Figure 4a). Worcester adults were more likely than adults in the rest of the state to have at least six teeth missing due to disease or decay. Of the selected cities, the percentage of adults who have at least six or more teeth missing due to disease or decay ranged from 14% in Boston to 27% in Fall River/New Bedford (Figure 4b).



Compared with 1995, the percentage of Worcester adults who had visited the dentist in the past year and the percentage of adults who had six or more teeth missing due to disease or decay were similar during 1998 and 1999 (Figure 4c).

CITY LEGEND	
Bos	= Boston
Spr	= Springfield
Wor	= Worcester
L/L	= Lawrence/Lowell
FR/NB	= Fall River/New Bedford
Other	= Other Localities

Comparison with State-wide data, National data, and Healthy People 2010 Objectives

	DENTAL VISIT IN PAST YEAR		6+ TEETH MISSING FROM DISEASE	
	%	95% CI	%	95% CI
Worcester %	71.1%	67.5 – 74.7%	23.6%	20.3 – 27.0%
Massachusetts %	76.8%	75.7 – 77.9%	17.8%	16.8 – 18.7%
US Median %	68.1%	N/A	19.9%	N/A
Healthy People 2010	N/A	N/A	N/A	N/A

SECTION 5: TOBACCO USE

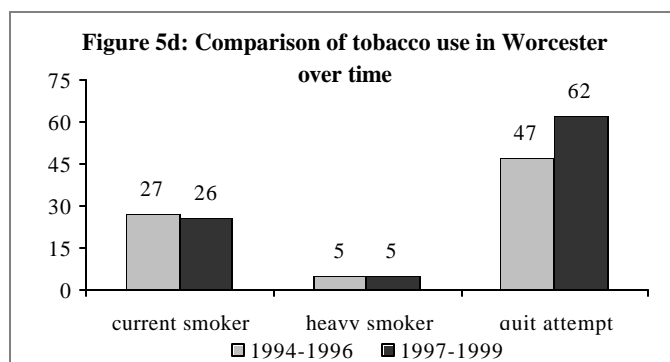
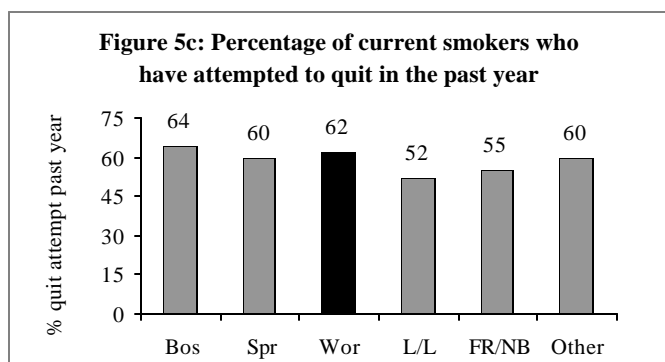
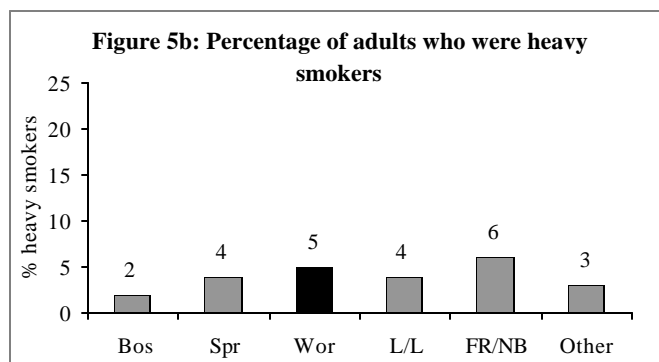
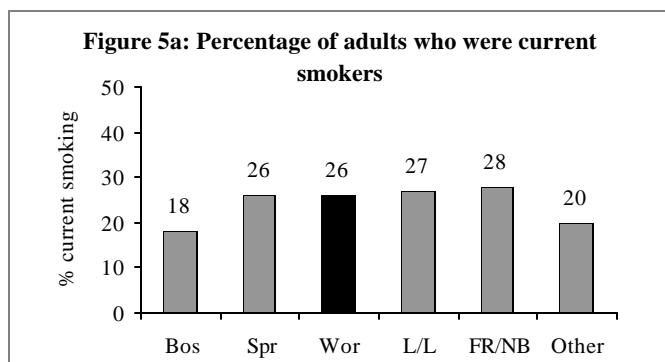
All respondents were asked whether they had smoked 100 cigarettes in their lifetime and whether they currently smoked daily, some days, or not at all. All current smokers were asked the number of cigarettes they smoked per day. Heavy smoking was defined as smoking 21 or more cigarettes per day, or more than one pack. All current smokers were also asked if they had quit smoking for at least one day during the course of the previous year.

During 1997 to 1999, 26% of Worcester adults were current smokers. Adults ages 65 and older and adults with a college education were less likely to be current smokers. Of the entire population, 5% were heavy smokers. Adults with a college education, and adults ages 18 to 29 and ages 65 and older were less likely to be heavy smokers. Hispanics and Black non-Hispanics were less likely than White non-Hispanics to be heavy smokers. Sixty-two percent of current smokers in Worcester have attempted to quit smoking during the previous year. Adults ages 18 to 29 were more likely to have attempted to quit in the past year.

TOBACCO USE AMONG WORCESTER ADULTS, 1997-1999 (PERCENTAGES AND 95% CONFIDENCE INTERVALS)						
	CURRENT SMOKER		HEAVY SMOKER		MADE QUIT ATTEMPT IN PAST YEAR ¹	
	%	95% CI	%	95% CI	%	95% CI
OVERALL	26.2	23.2 – 29.2	5.4	3.6 – 7.1	61.7	55.5 – 67.8
GENDER						
MALE	25.3	21.1 – 29.4	5.8	3.6 – 7.9	55.7	46.6 – 64.7
FEMALE	27.0	22.7 – 31.3	5.1	2.4 – 7.7	66.3	58.3 – 74.3
AGE GROUP						
18-29	33.7	26.8 – 40.7	2.0	0.6 – 3.4	74.3	64.5 – 84.0
30-44	32.4	27.4 – 37.5	7.1	4.5 – 9.8	56.4	47.6 – 65.2
45-64	26.8	19.9 – 33.8	10.4	4.0 – 16.8	55.1	39.9 – 70.4
65 AND OLDER	7.1	3.7 – 10.5	2.0	0.0 – 4.1	†	
RACE / ETHNICITY						
WHITE, NON-HISP.	25.8	22.5 – 29.1	6.1	4.0 – 8.1	60.6	53.7 – 67.4
ALL OTHER	28.4	20.9 – 36.0	1.6	0.2 – 3.1	67.3	53.1 – 81.5
BLACK, NON-HISP.	24.6	9.3 – 39.9	2.1	0.0 – 5.1	†	
HISPANIC	27.2	16.8 – 37.6	0.5	0.0 – 1.3	†	
EDUCATION						
< HIGH SCHOOL	29.0	20.4 – 37.6	5.5	1.9 – 9.1	†	
HIGH SCHOOL	33.0	26.9 – 39.1	7.8	3.4 – 12.1	63.2	52.9 – 73.4
COLLEGE 1-3 YRS	28.1	22.7 – 33.6	6.6	3.7 – 9.6	58.0	47.4 – 68.6
COLLEGE 4+ YRS	14.6	10.4 – 18.7	0.8	0.0 – 1.7	65.2	51.2 – 79.1
HOUSEHOLD INCOME						
< \$25,000	31.6	25.9 – 37.2	4.8	2.6 – 7.0	59.1	49.1 – 69.2
\$25-34,999	27.0	18.0 – 36.1	5.5	2.0 – 8.9	74.4	60.4 – 88.5
\$35-49,999	26.5	17.8 – 35.1	8.3	0.3 – 16.3	†	
\$50,000+	22.0	16.3 – 27.6	5.1	2.2 – 8.1	50.2	35.7 – 64.7

† Insufficient sample size

¹ Among current smokers only



Compared with the state as a whole, Worcester adults were more likely to be current smokers. Among the selected cities, the percentage of adults who are current smokers ranged from 18% in Boston to 28% in Fall River/New Bedford (Figure 5a). Worcester adults were more likely than adults in the state overall to be heavy smokers. The percentage of adults who were heavy smokers ranged from 2% in Boston to 6% in Fall River/New Bedford (Figure 5b). The percentage of Worcester adults who reported that they had tried to quit smoking at some point in the preceding year was similar to the state overall. Among the selected cities, the percentage of adults who attempted to quit in the past year ranged from 52% in Lawrence/Lowell to 64% in Boston (Figure 5c).

CITY LEGEND	
Bos	= Boston
Spr	= Springfield
Wor	= Worcester
L/L	= Lawrence/Lowell
FR/NB	= Fall River/New Bedford
Other	= Other Localities

Compared with the results from 1994 to 1996, the percentage of Worcester adults who were current smokers and the percentage who were heavy smokers were similar during 1997 to 1999 (Figure 5d). Compared with the results from 1994 to 1996, the percentage of Worcester adults who tried to quit smoking in the past year increased during 1997-1999. Worcester did not meet the Healthy People 2010 Objective for current smoking level.

Comparison with State-wide data, National data, and Healthy People 2010 Objectives

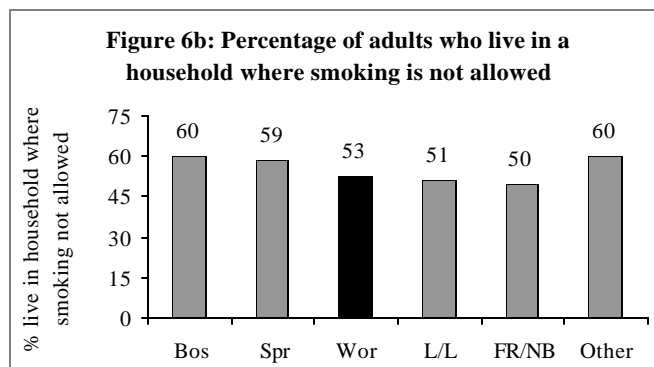
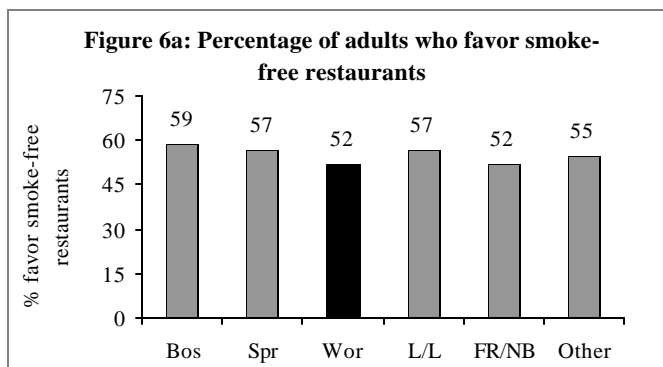
	CURRENT SMOKER		HEAVY SMOKER		MADE QUIT ATTEMPT PAST YEAR	
	%	95% CI	%	95% CI	%	95% CI
Worcester %	26.2%	23.2 – 29.2%	5.4%	3.6 – 7.1%	61.7%	55.5 – 67.8%
Massachusetts %	20.6%	19.7 – 21.5%	3.5%	3.1 – 3.9%	59.8%	57.4 – 62.1%
US Median %	22.9%	N/A	N/A	N/A	49.2%	N/A
Healthy People 2010	12.0%	N/A	N/A	N/A	N/A	N/A

SECTION 6: ENVIRONMENTAL TOBACCO

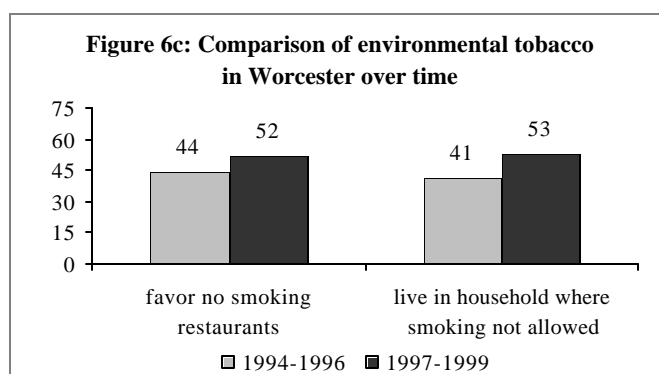
All respondents were asked whether they felt that smoking in restaurants should be allowed without restriction, only in designated areas, or not at all. Respondents were also asked whether smoking is allowed in their own home.

During 1997 to 1999, 52% of Worcester adults supported smoke-free restaurants. Hispanics were more likely than White non-Hispanics to support smoke-free restaurants. The percentage of adults in support of smoke-free restaurants increased with increasing education levels. Overall, 53% of Worcester adults live in households where smoking is not allowed. Compared with White non-Hispanics, Black non-Hispanics and Hispanics were more likely to live in households where smoking is not allowed. The percentage of adults who live in households where smoking is not allowed increased with increasing age.

ENVIRONMENTAL TOBACCO AMONG WORCESTER ADULTS, 1997-1999 <i>(PERCENTAGES AND 95% CONFIDENCE INTERVALS)</i>				
	SUPPORT SMOKE-FREE RESTAURANTS		LIVE IN HOUSEHOLD WHERE SMOKING NOT ALLOWED	
	%	95% CI	%	95% CI
OVERALL	51.6	48.2 – 55.0	52.7	49.3 – 56.1
GENDER				
MALE	52.1	47.1 – 57.2	55.2	50.1 – 60.2
FEMALE	51.1	46.6 – 55.7	50.7	46.1 – 55.3
AGE GROUP				
18-29	54.8	47.8 – 61.7	47.9	40.7 – 55.0
30-44	49.1	43.3 – 54.8	50.3	44.5 – 56.1
45-64	54.5	47.2 – 61.7	54.8	47.6 – 62.1
65 AND OLDER	48.1	40.6 – 55.6	59.3	51.8 – 66.7
RACE / ETHNICITY				
WHITE, NON-HISP.	49.8	46.1 – 53.5	50.5	46.7 – 54.2
ALL OTHER	62.5	54.0 – 71.0	66.7	46.7 – 54.2
BLACK, NON-HISP.	53.6	34.3 – 72.9	72.9	57.2 – 88.7
HISPANIC	66.7	54.7 – 78.7	67.6	56.7 – 78.6
EDUCATION				
< HIGH SCHOOL	47.1	37.0 – 57.3	52.1	41.7 – 62.4
HIGH SCHOOL	49.3	43.2 – 55.4	44.4	38.4 – 50.4
COLLEGE 1-3 YRS	51.7	45.1 – 58.2	53.9	47.4 – 60.4
COLLEGE 4+ YRS	56.5	50.5 – 62.5	62.0	56.0 – 67.9
HOUSEHOLD INCOME				
< \$25,000	46.1	39.8 – 52.4	45.1	38.6 – 51.5
\$25-34,999	52.9	43.3 – 62.5	54.2	44.6 – 63.9
\$35-49,999	48.4	39.2 – 57.5	53.5	44.2 – 62.8
\$50,000+	56.7	49.7 – 63.7	58.2	51.2 – 65.2



Compared with the state as a whole, Worcester adults were less likely to support smoke-free restaurants. Among the selected cities, the percentage of adults who support smoke-free restaurants ranged from 52% in Worcester and Fall River/New Bedford to 59% in Boston (Figure 6a). Compared with the state as a whole, Worcester adults were less likely to live in households where smoking is not allowed. Of the selected cities, the percentage of adults who do not allow smoking anywhere in their homes ranged from 50% in Fall River/New Bedford to 60% in Boston (Figure 6b).



Compared with 1994 to 1996, the percentage of Worcester adults who support smoke-free restaurants and the percentage who live in households where smoking is not allowed increased during 1997 to 1999 (Figure 6c).

CITY LEGEND	
Bos	= Boston
Spr	= Springfield
Wor	= Worcester
L/L	= Lawrence/Lowell
FR/NB	= Fall River/New Bedford
Other	= Other Localities

Comparison with State-wide data, National data, and Healthy People 2010 Objectives

	SUPPORT SMOKE-FREE RESTAURANTS		LIVE IN HOUSEHOLD WHERE SMOKING NOT ALLOWED	
	%	95% CI	%	95% CI
Worcester %	51.6%	48.2 – 55.0%	52.7%	49.3 – 56.1%
Massachusetts %	55.2%	54.1 – 56.3%	59.3%	58.1 – 60.4%
US Median %	N/A	N/A	N/A	N/A
Healthy People 2010	N/A	N/A	N/A	N/A

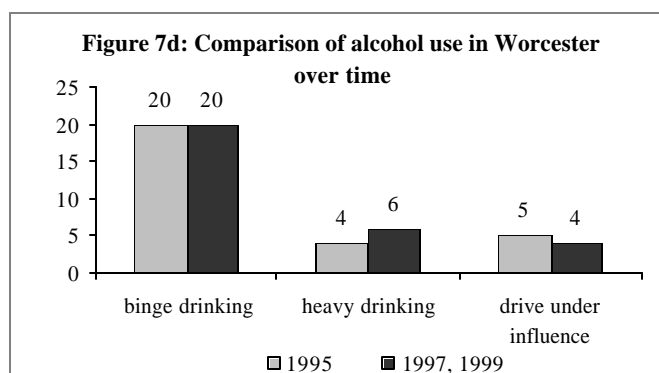
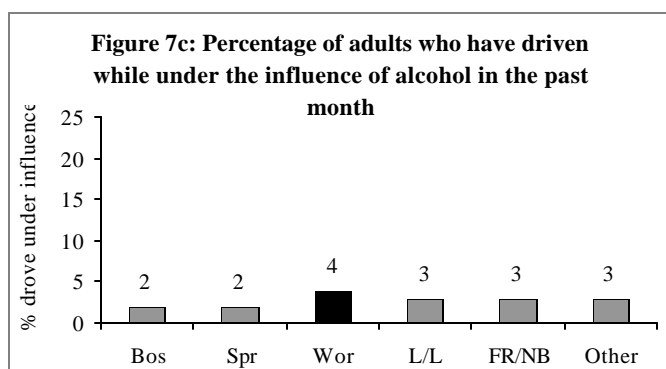
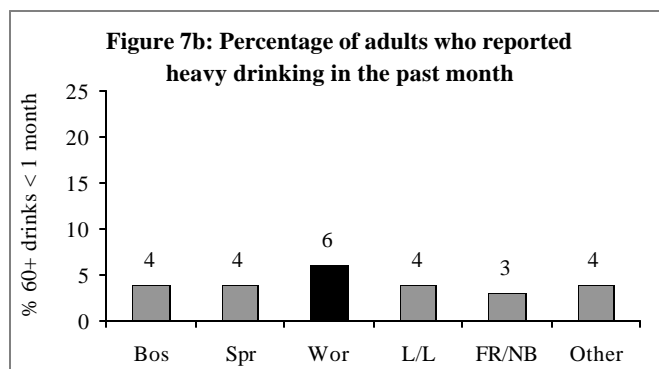
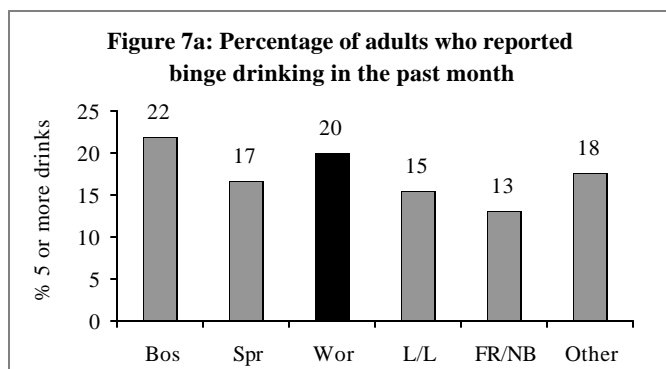
SECTION 7: ALCOHOL USE

All respondents who had reported having had at least one drink in the past 30 days were asked if they had consumed 5 or more drinks on one occasion in the past month (binge drinking). Respondents were also asked how many drinks they have had in the past 30 days, and whether or not they had driven at some point when they felt they had too much to drink.

During 1997 and 1999, 20% of Worcester adults had consumed five or more drinks on one occasion in the past month (binge drinking). Men and adults ages 18 to 44 were more likely to report binge drinking in the month. Overall, 6% of Worcester adults reported having had 60 or more drinks over the previous 30 days (heavy drinking). Men and adults ages 18 to 44 were more likely to report heavy drinking in the preceding month. Four percent of Worcester adults reported that they drove when they had consumed too much alcohol. Men were more likely to have driven when they drank too much at some point in the past month. White non-Hispanics were less likely than Black non-Hispanics and Hispanics to have driven after drinking too much. The percentage of adults who drove after having had too much to drink decreased with increasing age.

ALCOHOL USE AMONG WORCESTER ADULTS, 1997, 1999 <i>(PERCENTAGES AND 95% CONFIDENCE INTERVALS)</i>						
	BINGE DRINKING		HEAVY DRINKING		DRIVING AFTER DRINKING	
	%	95% CI	%	95% CI	%	95% CI
OVERALL	20.0	16.6 – 23.5	5.9	3.7 – 8.1	3.8	2.3 – 6.1
GENDER						
MALE	33.9	27.7 – 40.1	10.7	6.3 – 15.1	7.0	4.0 – 12.0
FEMALE	9.0	5.9 – 12.1	2.0	0.4 – 3.6	1.2	0.5 – 2.8
AGE GROUP						
18-29	33.5	25.3 – 41.8	8.9	3.6 – 14.3	7.5	4.1 – 13.5
30-44	27.1	20.4 – 33.9	9.1	4.2 – 14.0	4.6	1.8 – 11.1
45-64	8.8	4.1 – 13.5	3.4	0.3 – 6.4	1.6	0.4 – 6.3
65 AND OLDER	3.7	0.3 – 7.2	0.0	---	0.0	---
RACE / ETHNICITY						
WHITE, NON-HISP.	19.9	16.1 – 23.6	6.4	3.9 – 8.9	2.4	1.3 – 4.3
ALL OTHER	21.8	12.5 – 31.1	3.9	0.0 – 8.5	10.1	4.6 – 20.7
BLACK, NON-HISP.	†		†		†	
HISPANIC	23.9	12.1 – 35.7	4.2	0.0 – 10.3	8.9	3.4 – 21.1
EDUCATION						
< HIGH SCHOOL	20.5	10.9 – 30.1	1.8	0.0 – 4.3	3.8	1.4 – 9.9
HIGH SCHOOL	18.5	12.0 – 25.0	7.5	2.7 – 12.2	3.7	1.3 – 10.2
COLLEGE 1-3 YRS	23.2	16.5 – 30.0	6.9	2.8 – 11.0	6.1	3.0 – 12.0
COLLEGE 4+ YRS	19.0	12.9 – 25.1	4.8	1.2 – 8.5	1.8	0.7 – 4.4
HOUSEHOLD INCOME						
< \$25,000	17.1	11.2 – 23.0	5.7	1.9 – 9.5	4.9	2.4 – 9.7
\$25-34,999	21.8	12.5 – 31.1	7.5	1.4 – 13.5	3.0	1.0 – 8.5
\$35-49,999	19.1	11.4 – 26.8	6.0	1.8 – 10.3	3.5	1.0 – 11.0
\$50,000+	27.6	18.6 – 36.7	7.1	0.8 – 13.3	4.7	1.3 – 15.2

† Insufficient sample size



Compared with the state as a whole, a similar percentage of Worcester adults reported binge drinking in the past 30 days. Among the selected cities, the percentage of adults who reported binge drinking in the past month ranged from 13% in Fall River/New Bedford to 22% in Boston (Figure 7a). Compared with the state as a whole, a similar percentage of Worcester adults reported heavy drinking in the past month.

Among the selected cities, the percentage of adults who reported heavy drinking in the past month ranged from 3% in Fall River/New Bedford to 6% in Worcester (Figure 7b). Compared with the state as a whole, a similar percentage of Worcester adults have driven after drinking too much in the past month. The percentage of adults who drove after drinking too much ranged from 2% in Boston and Springfield to 4% in Worcester (Figure 7c).

Compared with 1995, the percentage of Worcester adults who were binge drinkers and the percentage who were chronic drinkers were similar during 1997 and 1999 (Figure 7d). Compared with 1995, the percentage of Worcester adults who had driven after drinking too much in the past month was similar during 1997 and 1999. Worcester did not meet the Healthy People 2010 Objective for binge drinking.

CITY LEGEND

Bos = Boston
 Spr = Springfield
 Wor = Worcester
 L/L = Lawrence/Lowell
 FR/NB = Fall River/New Bedford
 Other = Other Localities

Comparison with State-wide data, National data, and Healthy People 2010 Objectives

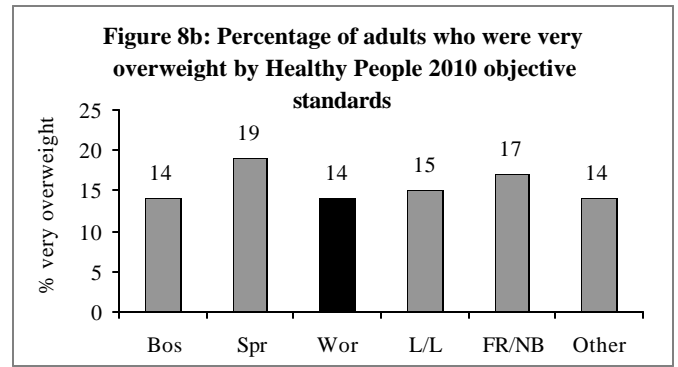
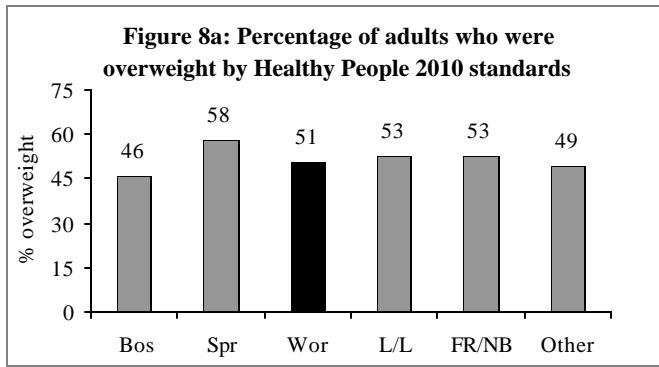
	BINGE DRINKING		HEAVY DRINKING		DRIVING AFTER DRINKING	
	%	95% CI	%	95% CI	%	95% CI
Worcester %	20.0%	16.6 – 23.5%	5.9%	3.7 – 8.1%	3.8%	1.9 – 5.6%
Massachusetts %	17.7%	16.6 – 18.8%	4.2%	3.6 – 4.8%	2.7%	2.2 – 3.1%
US Median %	14.7%	N/A	3.3%	N/A	4.3%	N/A
Healthy People 2010	6%	N/A	N/A	N/A	N/A	N/A

SECTION 8: WEIGHT CONTROL

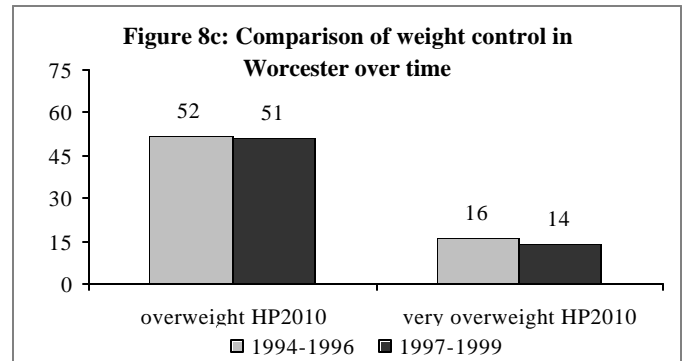
All respondents reported their height and weight. Using Body Mass Index (BMI), calculated by dividing weight in kilograms by height in meters squared, we categorized all adults on weight status. Based on the Healthy People 2010 objectives (HP 2010), both men and women were categorized as overweight with BMI > 25, and as very overweight with BMI > 30.

During 1997 to 1999, 51% of Worcester adults were overweight by the HP 2010 objective. Men were more likely than women to be overweight. The percentage of overweight adults increased until age 65, then decreased. Black non-Hispanics were more likely than Hispanics to be overweight. Neither education nor income was associated with being overweight in this population. Fourteen percent of Worcester adults were very overweight by the HP 2010 objective. Adults ages 18 to 29 were less likely than older adults to be very overweight based on the HP 2010 objective.

WEIGHT CONTROL AMONG WORCESTER ADULTS, 1997-1999 <i>(PERCENTAGES AND 95% CONFIDENCE INTERVALS)</i>				
	OVERWEIGHT (HP 2010 OBJECTIVE)		VERY OVERWEIGHT (HP 2010 OBJECTIVE)	
	%	95% CI	%	95% CI
OVERALL	50.5	47.0 – 54.0	14.1	11.6 – 15.5
GENDER				
MALE	63.9	58.9 – 69.0	14.6	11.1 – 18.1
FEMALE	38.6	33.9 – 43.2	13.6	10.1 – 17.0
AGE GROUP				
18-29	34.5	27.9 – 41.1	7.7	4.4 – 11.0
30-44	51.5	45.5 – 57.5	17.2	12.6 – 21.7
45-64	62.2	55.0 – 69.5	18.7	11.7 – 25.6
65 AND OLDER	57.4	49.6 – 65.2	13.1	8.6 – 17.6
RACE / ETHNICITY				
WHITE, NON-HISP.	51.9	48.1 – 55.8	14.3	11.6 – 16.9
ALL OTHER	42.3	33.5 – 51.1	12.7	6.1 – 19.4
BLACK, NON-HISP.	67.0	49.0 – 84.9	24.1	1.3 – 46.8
HISPANIC	39.3	28.2 – 50.4	10.9	4.8 – 17.0
EDUCATION				
< HIGH SCHOOL	50.5	39.8 – 61.2	17.6	10.9 – 24.4
HIGH SCHOOL	58.2	52.1 – 64.3	18.6	13.0 – 24.2
COLLEGE 1-3 YRS	49.0	42.2 – 55.7	12.8	9.1 – 16.6
COLLEGE 4+ YRS	43.2	36.9 – 49.4	8.8	5.7 – 11.8
HOUSEHOLD INCOME				
< \$25,000	47.1	40.6 – 53.7	15.0	10.9 – 19.1
\$25-34,999	54.1	44.8 – 63.5	12.1	7.2 – 17.1
\$35-49,999	50.3	40.8 – 59.8	15.7	7.2 – 24.3
\$50,000+	53.8	46.5 – 61.0	13.7	8.4 – 19.0



Compared with the rest of Massachusetts, a similar percentage of Worcester adults were overweight by the Healthy People 2010 objective. Among the selected cities, the percentage of overweight adults ranged from 46% in Boston to 58% in Springfield (Figure 8a). Worcester adults were as likely as adults of the state as a whole to be very overweight by the Healthy People 2010 objective. Among the selected cities, the percentage of adults who were very overweight ranged from 14% in Boston and Worcester to 19% in Springfield (Figure 8b).



Compared with 1994-1996, the percentage of Worcester adults who were overweight or very overweight were similar during 1997-1999 (Figure 8c). Worcester did not meet the Healthy People 2010 objective for overweight or very overweight adults.

CITY LEGEND	
Bos	= Boston
Spr	= Springfield
Wor	= Worcester
L/L	= Lawrence/Lowell
FR/NB	= Fall River/New Bedford
Other	= Other Localities

Comparison with State-wide data, National data, and Healthy People 2010 Objectives

	OVERWEIGHT (HP 2010 STANDARDS)		VERY OVERWEIGHT (HP 2010 STANDARDS)	
	%	95% CI	%	95% CI
Worcester %	50.5%	47.0 – 54.0%	14.1%	11.6 – 15.5%
Massachusetts %	49.1%	48.0 – 50.3%	13.9%	13.1 – 14.7%
US Median %	N/A	N/A	N/A	N/A
Healthy People 2010	40%	N/A	15%	N/A

SECTION 9: HIGH BLOOD PRESSURE AWARENESS

All respondents were asked when they last had their blood pressure checked by a health professional. Those who ever had their blood pressure checked were asked whether they had ever been told they had hypertension, or high blood pressure.

During 1997 and 1999, 96% of Worcester adults had their blood pressure checked within the past 2 years. Women were more likely than men to have had their blood pressure checked. Among adults who have had their blood pressure checked, 19% had been told by a health professional that they have high blood pressure. Older adults were more likely to have high blood pressure.

HIGH BLOOD PRESSURE AWARENESS AMONG WORCESTER ADULTS, 1997, 1999 (PERCENTAGES AND 95% CONFIDENCE INTERVALS)				
	BLOOD PRESSURE CHECKED IN PAST TWO YEARS		HIGH BLOOD PRESSURE [†]	
	%	95% CI	%	95% CI
OVERALL	95.8	93.9 – 97.1	19.1	15.9 – 22.4
GENDER				
MALE	93.3	89.3 – 95.9	20.6	15.5 – 25.6
FEMALE	97.9	96.2 – 98.8	18.0	13.7 – 22.3
AGE GROUP				
18-29	96.5	91.5 – 98.6	6.3	2.4 – 10.3
30-44	92.6	87.9 – 95.6	17.5	11.1 – 23.8
45-64	97.2	92.8 – 98.9	19.8	13.5 – 26.2
65 AND OLDER	98.1	94.1 – 99.4	39.2	29.8 – 48.6
RACE / ETHNICITY				
WHITE, NON-HISP.	96.7	94.7 – 98.0	20.3	16.5 – 24.0
ALL OTHER	92.3	85.0 – 96.2	13.8	7.2 – 20.3
BLACK, NON-HISP.	†		†	
HISPANIC	89.8	77.7 – 95.7	12.7	4.4 – 20.9
EDUCATION				
< HIGH SCHOOL	92.7	83.2 – 97.0	21.7	12.6 – 30.8
HIGH SCHOOL	96.3	92.9 – 98.1	20.7	14.8 – 26.6
COLLEGE 1-3 YRS	96.6	91.1 – 98.7	18.7	12.2 – 25.1
COLLEGE 4+ YRS	95.8	92.3 – 97.8	17.0	11.0 – 23.0
HOUSEHOLD INCOME				
< \$25,000	97.3	94.0 – 98.8	16.6	11.5 – 21.7
\$25-34,999	93.7	84.9 – 97.5	13.4	6.9 – 19.9
\$35-49,999	97.9	93.6 – 99.3	22.4	11.5 – 33.2
\$50,000+	94.7	90.2 – 97.2	19.8	12.2 – 27.4

† Insufficient sample size

¹ Among adults who had their blood pressure checked

Figure 9a: Percentage of adults who have had their blood pressure checked in past 2 years

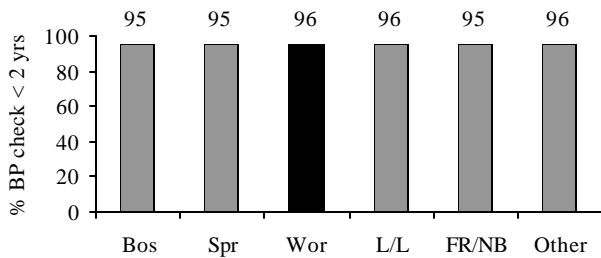
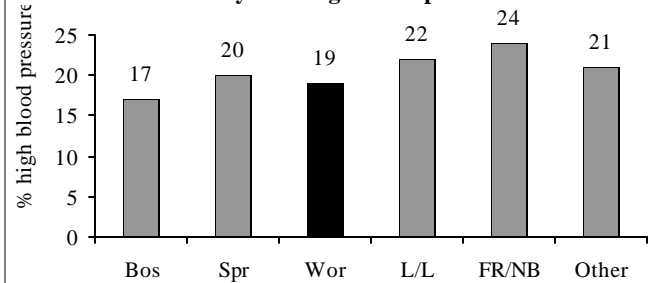
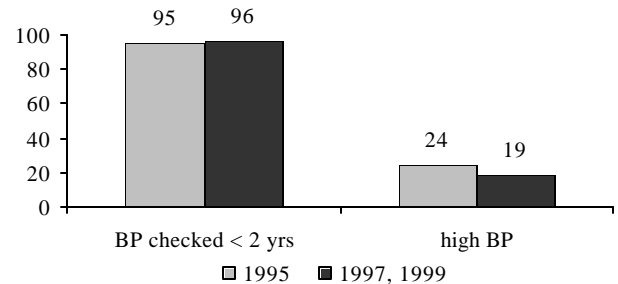


Figure 9b: Percentage of adults who were ever told they have high blood pressure



Compared with the state as a whole, a similar percentage of Worcester adults have had their blood pressure checked in the past two years. Of the selected cities, the percentage of adults who have had their blood pressure checked in the past two years ranged from 95% in Boston, Springfield and Fall River/New Bedford to 96% in Worcester, and Lawrence/Lowell (Figure 9a). The percentage of adults with high blood pressure in Worcester was similar to that of the state as a whole. Among the selected cities, the percentage of adults with high blood pressure ranged from 17% in Boston to 24% in Fall River/New Bedford (Figure 9b).

Figure 9c: Comparison of blood pressure awareness in Worcester over time



Compared with 1995, the percentage of Worcester adults who had their blood pressure checked in the past two years and the percentage who had high blood pressure were similar during 1997 and 1999 (Figure 9c). Worcester did not meet the Healthy People 2010 objective for percentage of adults with high blood pressure.

CITY LEGEND

Bos	= Boston
Spr	= Springfield
Wor	= Worcester
L/L	= Lawrence/Lowell
FR/NB	= Fall River/New Bedford
Other	= Other Localities

Comparison with State-wide data, National data, and Healthy People 2010 Objectives

	BLOOD PRESSURE CHECKED, PAST TWO YEARS		HIGH BLOOD PRESSURE	
	%	95% CI	%	95% CI
Worcester %	95.8%	94.2 – 97.4%	19.1%	15.9 – 22.4%
Massachusetts %	95.9%	95.4 – 96.5%	20.7%	19.6 – 21.8%
US Median %	94.5%	N/A	23.5%	N/A
Healthy People 2010	N/A	N/A	16%	N/A

SECTION 10: CHOLESTEROL AWARENESS

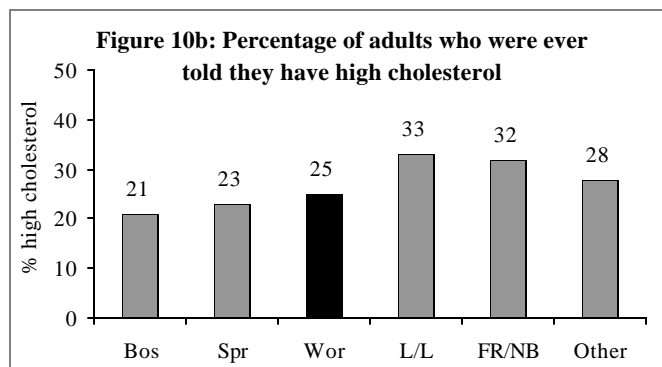
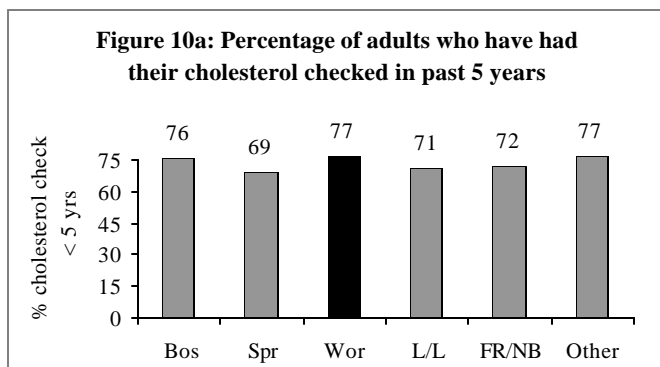
All adults were asked if they had ever had their blood cholesterol checked, and if so, when the last time it was checked. Respondents who had ever had their cholesterol checked were also asked if a doctor or other health professional had ever told them that they had high cholesterol.

During 1997 and 1999, 77% of Worcester adults reported having had their blood cholesterol checked within the past 5 years. Women were more likely than men to have had their blood cholesterol checked. The percentage of adults who have had their blood pressure checked in the past five years increased with increasing age and education. Twenty-five percent of Worcester adults reported being told that they had high cholesterol. Adults ages 45 and older were more likely to have been told that their cholesterol was high. White non-Hispanics were more likely than Hispanics to have been told they had high cholesterol.

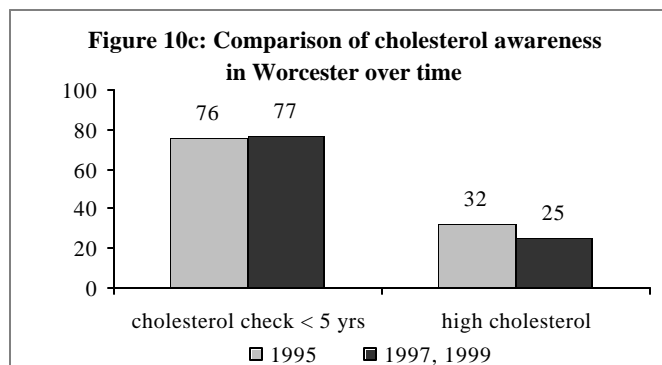
CHOLESTEROL AWARENESS AMONG WORCESTER ADULTS, 1997, 1999 (PERCENTAGES AND 95% CONFIDENCE INTERVALS)				
	HAD BLOOD CHOLESTEROL CHECKED IN PAST 5 YEARS		EVER TOLD HAD HIGH CHOLESTEROL¹	
	%	95% CI	%	95% CI
OVERALL	76.6	72.9 – 80.4	25.2	21.3 – 29.2
GENDER				
MALE	71.4	65.5 – 77.4	27.2	21.0 – 33.4
FEMALE	80.9	76.2 – 85.7	23.6	18.5 – 28.7
AGE GROUP				
18-29	64.4	55.6 – 73.1	10.7	5.0 – 16.5
30-44	73.6	67.3 – 80.0	17.3	11.8 – 22.7
45-64	83.0	75.4 – 90.5	41.9	32.0 – 51.8
65 AND OLDER	91.3	86.4 – 96.1	32.9	23.5 – 42.3
RACE / ETHNICITY				
WHITE, NON-HISP.	79.2	75.2 – 83.2	27.4	22.9 – 31.9
ALL OTHER	66.8	56.6 – 76.9	12.7	5.8 – 19.6
BLACK, NON-HISP.	†		†	
HISPANIC	67.5	54.2 – 80.8	8.9	1.7 – 16.1
EDUCATION				
< HIGH SCHOOL	69.5	57.4 – 81.6	26.3	14.4 – 38.1
HIGH SCHOOL	75.4	68.9 – 81.9	23.3	16.6 – 30.0
COLLEGE 1-3 YRS	75.4	67.4 – 83.4	26.8	18.9 – 34.7
COLLEGE 4+ YRS	82.6	76.5 – 88.6	25.5	18.4 – 32.7
HOUSEHOLD INCOME				
< \$25,000	70.4	62.9 – 78.0	28.5	20.5 – 36.5
\$25-34,999	81.5	72.9 – 90.0	18.5	9.7 – 27.3
\$35-49,999	81.7	73.8 – 89.5	24.0	13.2 – 34.7
\$50,000+	81.5	72.8 – 90.3	26.6	18.7 – 34.4

† Insufficient sample size

¹ Among respondents who had their cholesterol checked



Compared with the state as a whole, a similar percentage of Worcester adults had their cholesterol checked in the past five years. Of the selected cities, the percentage of adults who had their cholesterol checked in the past five years ranged from 69% in Springfield to 77% in Worcester (Figure 10a). Worcester adults were as likely as adults of the state as a whole to have been told by a health professional that they have high cholesterol. Among the selected cities, the percentage of adults with high cholesterol ranged from 21% in Boston to 33% in Lowell / Lawrence (Figure 10b).



Compared with 1995, the percentage of Worcester adults who have had their cholesterol checked in the past five years and the percentage who had high cholesterol were similar during 1997 and 1999 (Figure 10c). Worcester does not meet the Healthy People 2010 objectives for either cholesterol screening or percentage of adults with high cholesterol.

CITY LEGEND	
Bos	= Boston
Spr	= Springfield
Wor	= Worcester
L/L	= Lawrence/Lowell
FR/NB	= Fall River/New Bedford
Other	= Other Localities

Comparison with State-wide data, National data, and Healthy People 2010 Objectives

	HAD BLOOD CHOLESTEROL CHECKED IN PAST 5 YEARS		EVER TOLD HAD HIGH CHOLESTEROL	
	%	95% CI	%	95% CI
Worcester %	76.6%	72.9 – 80.4%	25.2%	21.3 – 29.2%
Massachusetts %	76.1%	74.8 – 77.3%	27.0%	25.7 – 28.3%
US Median %	69.2%	N/A	29.4%	N/A
Healthy People 2010	80%	N/A	16%	N/A

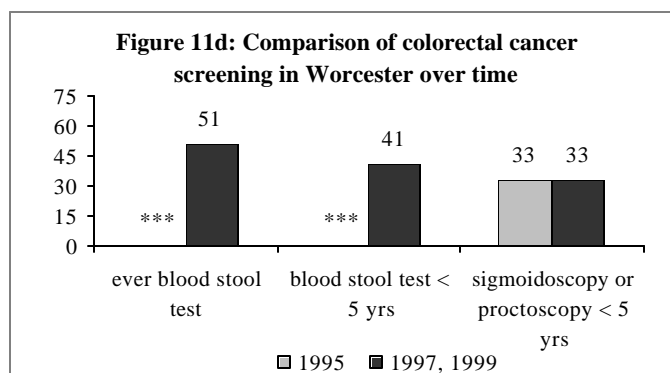
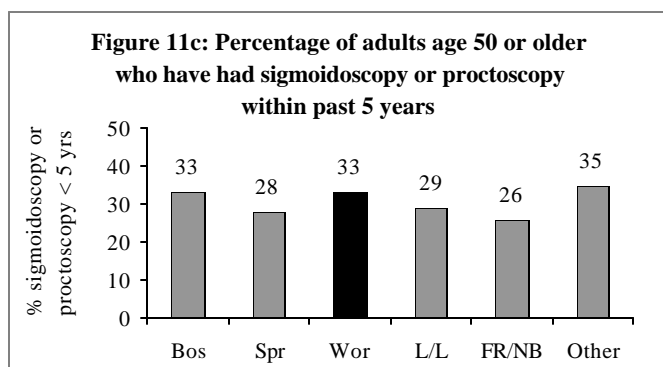
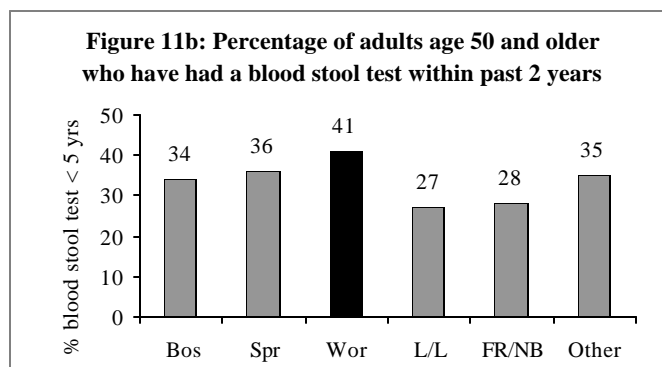
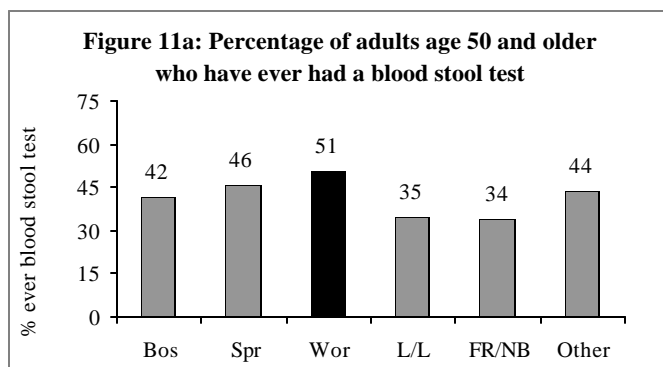
SECTION 11: COLORECTAL CANCER SCREENING

All respondents ages 40 and older were asked whether they had ever had a blood stool test, and if so, when was their last blood stool test. Respondents were also asked whether they had ever had a sigmoidoscopy or proctoscopy and how long it has been since they had it. We limited analysis to adults ages 50 and older, corresponding to current screening recommendations.

During 1997 and 1999, 51% of Worcester adults ages 50 and older reported ever having had a blood stool test. Women were more likely than men to have had a blood stool test. Of all Worcester adults age 50 or older, 41% reported having had a blood stool test in the past two years. Thirty-three percent of Worcester adults reported having a sigmoidoscopy or proctoscopy in the past 5 years. Men were more likely than women to have had a sigmoidoscopy or proctoscopy in the past 5 years. Screening by both blood stool test and sigmoidoscopy or proctoscopy increased with increasing age.

COLORECTAL CANCER SCREENING AMONG WORCESTER ADULTS, AGE 50 AND OLDER, 1997 & 1999 (PERCENTAGES AND 95% CONFIDENCE INTERVALS)						
	BLOOD STOOL TEST EVER		BLOOD STOOL TEST IN PAST 2 YEARS		SIGMOIDOSCOPY OR PROCTOSCOPY IN PAST 5 YEARS	
	%	95% CI	%	95% CI	%	95% CI
OVERALL	50.9	43.1 – 58.7	41.0	32.9 – 49.0	32.6	25.1 – 40.1
GENDER						
MALE	41.8	29.3 – 54.3	34.3	22.0 – 46.6	40.1	26.9 – 53.3
FEMALE	57.8	48.6 – 66.9	46.2	35.8 – 56.5	26.8	19.4 – 34.3
AGE GROUP						
50-64	45.3	32.9 – 57.8	36.3	23.3 – 49.3	28.0	18.2 – 37.9
65 AND OLDER	54.8	44.6 – 64.9	44.2	33.8 – 54.6	35.7	25.3 – 46.1
RACE / ETHNICITY						
WHITE, NON-HISP.	51.7	43.7 – 59.8	41.3	32.9 – 49.7	33.2	25.4 – 41.0
ALL OTHER	†		†		†	
BLACK, NON-HISP.	†		†		†	
HISPANIC	†		†		†	
EDUCATION						
< HIGH SCHOOL	†		†		†	
HIGH SCHOOL	50.1	37.0 – 63.3	43.6	29.8 – 57.5	26.5	16.1 – 36.9
COLLEGE 1-3 YRS	†		33.5	19.5 – 47.4	†	
COLLEGE 4+ YRS	†		†		29.8	16.8 – 42.9
HOUSEHOLD INCOME						
< \$25,000	53.3	40.7 – 65.9	43.6	30.5 – 56.8	27.7	14.6 – 40.9
\$25-34,999	†		†		†	
\$35-49,999	†		†		†	
\$50,000+	†		†		†	

† Insufficient sample size



*** Data not available for 1994-1996

Compared with the state as a whole, Worcester adults ages 50 and older were more likely to have ever had a blood stool test. Among the selected cities, the percentage of adults ages 50 and older who had a blood stool test ranged from 34% in Fall River/New Bedford to 51% in Worcester (Figure 11a). Worcester adults ages 50 and older were more likely to have had a blood stool test in the past two years than adults of the state overall.

Among the selected cities, the percentage of adults ages 50 and older who have had a blood stool test in the past two years ranged from 27% in Lowell / Lawrence to 41% in Worcester (Figure 11b). The percentage of Worcester adults ages 50 and older who have had sigmoidoscopy or proctoscopy in the past five years was similar to that of the state overall. Among the selected cities, the percentage of adults age 50 and older who had a sigmoidoscopy or proctoscopy in the past five years ranged from 26% in Fall River/New Bedford to 33% in Boston and Worcester (Figure 11c).

Compared with 1995, the percentage of Worcester adults who have had a sigmoidoscopy or proctoscopy in the past 5 years was similar during 1997 and 1999 (Figure 11d). Worcester did not meet the Healthy People 2010 objective for the percentage of adults who have had a blood stool test in the past two years.

CITY LEGEND	
Bos	= Boston
Spr	= Springfield
Wor	= Worcester
L/L	= Lawrence/Lowell
FR/NB	= Fall River/New Bedford
Other	= Other Localities

Comparison with State-wide data, National data, and Healthy People 2010 Objectives

	BLOOD STOOL TEST EVER		BLOOD STOOL TEST IN PAST 2 YEARS		SIGMOIDOSCOPY OR PROCTOSCOPY PAST 5 YEARS	
	%	95% CI	%	95% CI	%	95% CI
Worcester %	50.9%	43.1 – 58.7%	41.0%	32.9 – 49.0%	32.6%	25.1 – 40.1%
Massachusetts %	43.5%	41.3 – 45.7%	34.1%	32.0 – 36.2%	33.9%	31.8 – 36.1%
US Median %	30.7%	N/A	25.1%	N/A	N/A	N/A
Healthy People 2010	N/A	N/A	50%	N/A	N/A	N/A

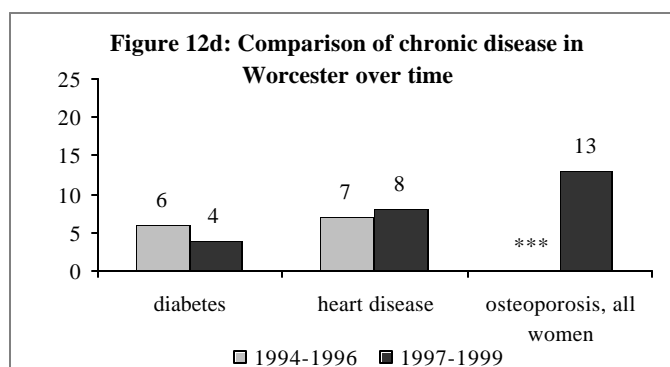
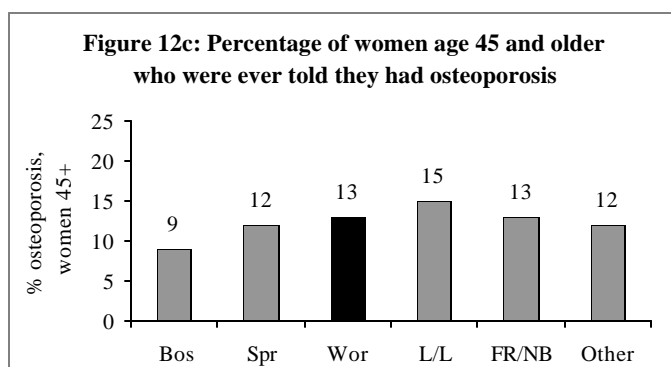
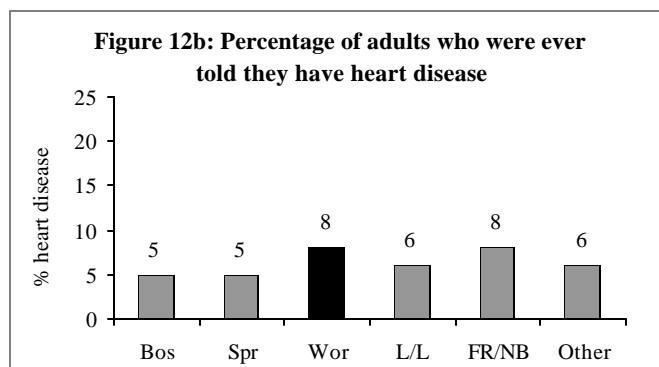
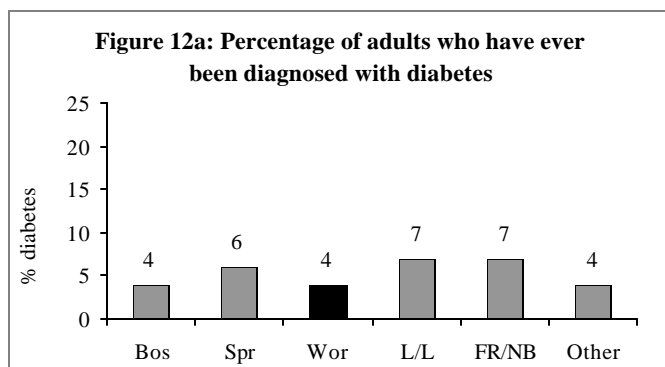
SECTION 12: CHRONIC DISEASE

All respondents were asked if they had ever been told by a doctor that they have diabetes or heart disease. Women who had diabetes only during pregnancy were considered to not have diabetes. All women age 45 and older were asked if they had ever been told that they had osteoporosis.

During 1997 to 1999, 4% of Worcester adults had been told by a doctor that they have diabetes. Adults with less than a high school education were more likely to have been diagnosed with diabetes, and the percentage of adults with diabetes increased with increasing age. Overall, 8% of Worcester adults had been told they have heart disease. Adults ages 45 and older were more likely to have heart disease. White non-Hispanics were more likely to have heart disease than Black non-Hispanics and Hispanics. The percentage of adults with heart disease decreased with increasing education and income levels. Thirteen percent of Worcester women age 45 and older have been told they have osteoporosis, and the percentage increased with increasing age. Women of lower income were more likely to have osteoporosis.

CHRONIC DISEASE AMONG WORCESTER ADULTS, 1997-1999 (PERCENTAGES AND 95% CONFIDENCE INTERVALS)						
	DIABETES, ALL ADULTS		HEART DISEASE, ALL ADULTS		OSTEOPOROSIS, WOMEN AGE 45+	
	%	95% CI	%	95% CI	%	95% CI
OVERALL	4.5	3.5 – 5.8	8.3	6.0 – 10.6	13.1	6.5 – 19.6
GENDER						
MALE	4.4	2.9 – 6.7	9.7	6.2 – 13.2	**	**
FEMALE	4.5	3.2 – 6.3	7.1	4.1 – 10.2	13.1	6.5 – 19.6
AGE GROUP						
18-29	1.1	0.3 – 4.3	2.9	0.0 – 6.6	**	**
30-44	2.3	1.2 – 4.5	2.8	0.9 – 4.8	**	**
45-64	5.6	3.5 – 8.8	8.7	4.4 – 12.9	8.7	2.9 – 14.6
65 AND OLDER	10.8	7.4 – 15.4	20.7	13.0 – 28.5	17.8	6.4 – 29.2
RACE / ETHNICITY						
WHITE, NON-HISP.	4.8	3.7 – 6.3	8.6	6.1 – 11.1	12.3	5.6 – 19.0
ALL OTHER	3.1	1.2 – 7.9	3.5	0.2 – 6.9	†	
BLACK, NON-HISP.	2.3	0.5 – 10.4	†		†	
HISPANIC	4.5	1.4 – 13.3	2.8	0.0 – 6.4	†	
EDUCATION						
< HIGH SCHOOL	14.2	8.9 – 21.9	13.5	6.2 – 20.8	20.8	5.8 – 35.8
HIGH SCHOOL	4.3	2.7 – 6.9	9.3	5.5 – 13.1	7.8	1.6 – 14.1
COLLEGE 1-3 YRS	3.3	1.9 – 5.6	9.1	3.5 – 14.8	18.7	0.0 – 38.1
COLLEGE 4+ YRS	1.9	0.9 – 4.0	3.8	1.6 – 6.1	12.2	2.0 – 22.4
HOUSEHOLD INCOME						
< \$25,000	5.2	3.3 – 8.1	11.9	6.2 – 17.7	23.9	7.8 – 39.9
\$25-34,999	3.7	1.7 – 7.7	7.6	2.4 – 12.7	6.2	0.0 – 16.6
\$35-49,999	2.5	1.0 – 6.4	7.6	2.0 – 13.2	10.5	0.0 – 22.7
\$50,000+	2.2	1.0 – 4.8	3.0	0.5 – 5.5	4.2	0.0 – 12.5

† Insufficient sample size



*** Data unavailable for 1994-1996

Compared with the state as a whole, a similar percentage of Worcester adults had diabetes. Among the selected cities, the percentage of adults with diabetes ranged from 4% in Boston and Worcester to 7% in Fall River/New Bedford and Lawrence/Lowell (Figure 12a). Compared with the state as a whole, a similar percentage of Worcester adults had heart disease. Among the selected cities, the percentage of adults with heart disease ranged from 5% in Boston and Springfield to 8% in Worcester and Fall River/ New Bedford (Figure 12b). Compared with the state as a whole, a similar percentage of Worcester women had osteoporosis. Among the selected cities, the percentage of women who had osteoporosis ranged from 9% in Boston to 15% in Lawrence/ Lowell (Figure 12c).

CITY LEGEND	
Bos	= Boston
Spr	= Springfield
Wor	= Worcester
L/L	= Lawrence/Lowell
FR/NB	= Fall River/New Bedford
Other	= Other Localities

Compared with 1994-1996, the percentage of Worcester adults with diabetes and the percentage with heart disease were similar during 1997-1999 (Figure 12d). Osteoporosis data were unavailable for 1994 to 1996. Worcester does not meet the Healthy People 2010 objective for diabetes.

Comparison with State-wide data, National data, and Healthy People 2010 Objectives

	DIABETES, ALL ADULTS		HEART DISEASE, ALL ADULTS		OSTEOPOROSIS, WOMEN AGE 45+	
	%	95% CI	%	95% CI	%	95% CI
Worcester %	4.5%	3.3 – 5.6%	8.3%	6.0 – 10.6%	13.1%	6.6 – 19.5%
Massachusetts %	4.4%	4.0 – 4.9%	6.2%	5.4 – 6.9%	11.5%	9.5 – 13.4%
US Median %	5.2%	N/A	N/A	N/A	N/A	N/A
Healthy People 2010	2.5%	N/A	N/A	N/A	N/A	N/A

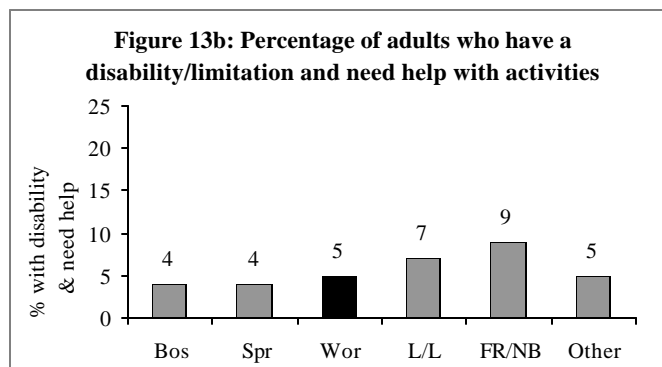
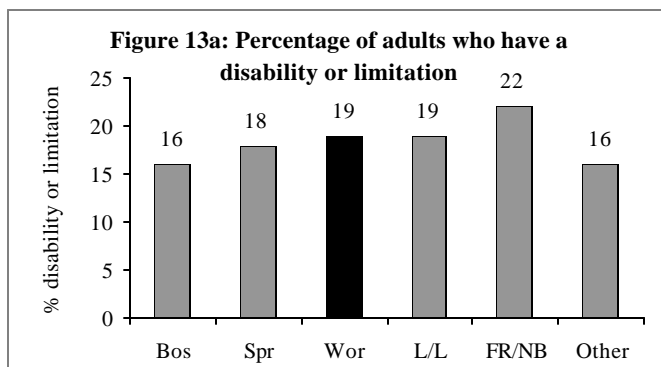
SECTION 13: DISABILITY AND LIMITATIONS

All respondents were asked about their disabilities and activity limitations. Respondents were defined as having a limitation or disability if they had an impairment or health problem that limited activities or caused cognitive difficulties, if they used special equipment or help from others to get around, or if they said they had a disability of any kind. Individuals who reported a limitation or disability were asked how long they had the impairment and if they needed help in handling routine needs or personal care.

During 1997 to 1999, 19% of Worcester adults reported having a disability or limitation for at least one year. The percentage of adults with a disability decreased with increasing education. Adults ages 45 and older were more likely to have a disability than adults ages 18 to 44. Five percent of Worcester adults reported having a limitation or disability that required help with daily activities. The percentage of adults with disability and in need of help with daily activities increased with increasing age.

DISABILITY AND LIMITATIONS AMONG WORCESTER ADULTS, 1997-1999 (PERCENTAGES AND 95% CONFIDENCE INTERVALS)				
	WITH DISABILITY OR LIMITATION		WITH DISABILITY OR LIMITATION AND NEED HELP WITH ACTIVITIES	
	%	95% CI	%	95% CI
OVERALL	19.0	16.1 – 21.8	4.6	3.5 – 6.0
GENDER				
MALE	18.8	14.9 – 22.8	4.0	2.5 – 6.2
FEMALE	19.1	15.0 – 23.2	5.0	3.6 – 6.9
AGE GROUP				
18-29	8.9	4.5 – 13.2	0.8	0.3 – 2.3
30-44	15.4	11.1 – 19.8	3.1	1.8 – 5.2
45-64	26.8	19.5 – 34.1	6.5	4.0 – 10.5
65 AND OLDER	29.4	22.3 – 36.5	9.5	6.3 – 14.2
RACE / ETHNICITY				
WHITE, NON-HISP.	18.7	15.6 – 21.8	4.6	3.5 – 6.1
ALL OTHER	20.6	12.6 – 28.6	3.9	1.9 – 8.0
BLACK, NON-HISP.	10.7	1.5 – 19.9	†	
HISPANIC	26.2	14.0 – 38.5	5.3	2.2 – 12.4
EDUCATION				
< HIGH SCHOOL	33.2	24.1 – 42.3	9.7	5.8 – 15.7
HIGH SCHOOL	20.6	14.9 – 26.2	5.3	3.4 – 8.2
COLLEGE 1-3 YRS	18.3	13.1 – 23.5	2.6	1.4 – 4.8
COLLEGE 4+ YRS	12.6	7.9 – 17.2	3.7	2.1 – 6.5
HOUSEHOLD INCOME				
< \$25,000	23.5	18.2 – 28.7	6.5	4.3 – 9.8
\$25-34,999	14.2	8.2 – 20.2	3.1	1.2 – 7.8
\$35-49,999	19.3	9.2 – 29.4	3.6	1.7 – 7.5
\$50,000+	11.0	6.7 – 15.2	1.3	0.4 – 4.2

† Insufficient sample size



Compared with the state as a whole, a similar percentage of Worcester adults had some type of disability or limitation. Of the selected cities, the percentage of adults with a disability ranged from 16% in Boston to 22% in Fall River/New Bedford (Figure 13a). The percentage of adults in Worcester who had a disability or limitation and needed help with their daily activities was similar to that of the rest of the state. Among the selected cities, the percentage of adults who had a disability or limitation and need help with their daily activities ranged from 4% in Boston and Springfield to 9% in Fall River/New Bedford (Figure 13b).

CITY LEGEND	
Bos	= Boston
Spr	= Springfield
Wor	= Worcester
L/L	= Lawrence/Lowell
FR/NB	= Fall River/New Bedford
Other	= Other Localities

Disability and limitation data are not available for 1994 to 1996.

Comparison with State-wide data, National data, and Healthy People 2010 Objectives

	WITH DISABILITY OR LIMITATION		WITH DISABILITY OR LIMITATION <u>AND</u> NEED HELP WITH ACTIVITIES	
	%	95% CI	%	95% CI
Worcester %	19.0%	16.1 – 21.8%	4.6%	3.5 – 6.0%
Massachusetts %	16.4%	15.6 – 17.3%	4.8%	4.3 – 5.3%
US Median %	N/A	N/A	N/A	N/A
Healthy People 2010	N/A	N/A	N/A	N/A

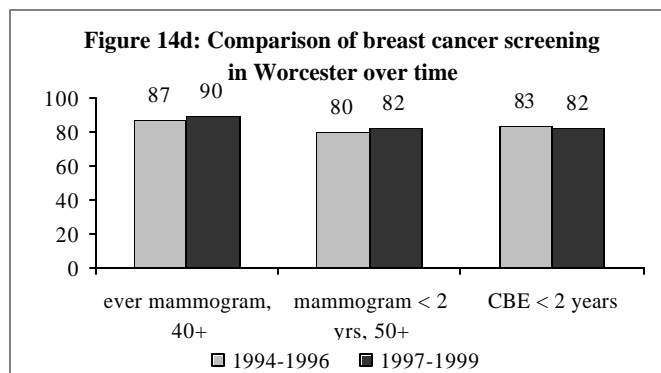
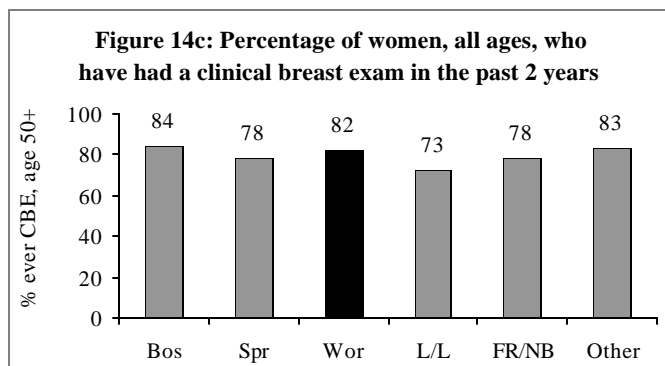
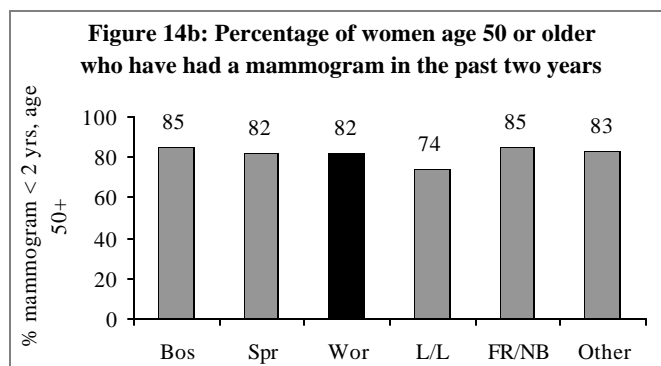
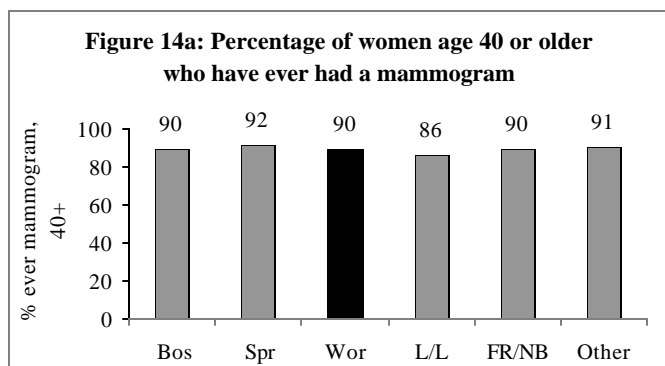
SECTION 14: BREAST CANCER SCREENING

All female respondents were asked about frequency of breast cancer screening. This analysis examines the percentage of women ages 40 and older who ever had a mammogram, the percentage of women ages 50 and older who have had a mammogram in the past two years, and the percentage of all women who have had a clinical breast exam (CBE) within the past two years.

From 1997 to 1999, 90% of Worcester women ages 40 and older have ever had a mammogram. Women ages 65 and older were more likely to have had a mammogram. Eighty-two percent of Worcester women ages 50 and older have had a mammogram within the past two years. The percentage of women who had a mammogram in the past two years increased with increasing education. Of all Worcester women, 82% reported having had a clinical breast exam in the previous two years. The percentage of women who have had a clinical breast exam in the past two years increased with increasing education.

BREAST CANCER SCREENING AMONG WORCESTER WOMEN, 1997-1999 (PERCENTAGES AND 95% CONFIDENCE INTERVALS)						
	MAMMOGRAM EVER, AGE 40+		MAMMOGRAM PAST 2 YEARS, AGE 50+		CBE IN PAST 2 YEARS, ALL WOMEN	
	%	95% CI			%	95% CI
OVERALL	89.5	86.4 – 92.6	82.3	77.6 – 87.0	82.0	78.5 – 85.6
AGE GROUP						
18-29	**	**	**	**	82.0	72.8 – 91.1
30-39	**	**	**	**	80.1	73.1 – 87.2
40-49	84.5	77.5 – 91.6	**	**	85.0	77.7 – 92.4
50-64	86.9	80.3 – 93.4	74.5	65.6 – 83.4	79.1	71.2 – 87.1
65 AND OLDER	95.0	91.9 – 98.1	87.8	82.8 – 92.8	83.5	77.5 – 89.5
RACE / ETHNICITY						
WHITE, NON-HISP.	90.6	87.5 – 93.7	82.7	77.9 – 87.5	84.0	80.3 – 87.8
ALL OTHER	†		†		†	
BLACK, NON-HISP.	†		†		†	
HISPANIC	†		†		†	
EDUCATION						
< HIGH SCHOOL	86.0	76.7 – 95.2	71.1	56.4 – 85.8	68.4	57.4 – 79.3
HIGH SCHOOL	88.3	82.7 – 93.8	82.9	75.6 – 90.3	77.3	69.6 – 85.0
COLLEGE 1-3 YRS	92.9	87.8 – 98.0	83.8	75.2 – 92.5	84.3	78.6 – 90.0
COLLEGE 4+ YRS	89.8	83.6 – 95.9	86.6	77.1 – 96.1	90.3	86.1 – 94.5
HOUSEHOLD INCOME						
< \$25,000	88.2	82.4 – 94.0	82.7	74.8 – 90.5	78.1	71.5 – 84.6
\$25-34,999	85.0	75.4 – 94.7	†		76.0	62.0 – 89.9
\$35-49,999	93.7	87.1 – 100	†		88.1	81.8 – 94.5
\$50,000+	92.2	84.8 – 99.6	†		87.3	81.1 – 93.5

† Insufficient sample size



Compared with the state as a whole, a similar percentage of Worcester women ages 40 and older have ever had a mammogram. Among the selected cities, the percentage of women who had a mammogram ranged from 86% in Lawrence/Lowell to 92% in Springfield (Figure 14a). Worcester women ages 50 and older were as likely to have had a mammogram in the past two years as those of the state overall. The percentage of women ages 50 and older who have had a mammogram in the past two years ranged from 74% in Lawrence/Lowell to 85% in Boston and Fall River/New Bedford (Figure 14b).

Worcester women were as likely to have had a clinical breast exam in the past two years as the rest of Massachusetts. Among the selected cities, the percentage of women who have had a clinical breast exam in the past two years ranged from 73% in Lawrence/Lowell to 84% in Boston (Figure 14c).

Compared with 1994 to 1996, the percentage of Worcester women ages 40 and older who have ever had a mammogram, ages 50 and older who had a mammogram in the past two years, and all ages who have had a clinical breast exam in the past two years were similar during 1997 to 1999 (Figure 14c).

CITY LEGEND

Bos = Boston
 Spr = Springfield
 Wor = Worcester
 L/L = Lawrence/Lowell
 FR/NB = Fall River/New Bedford
 Other = Other Localities

Comparison with State-wide data, National data, and Healthy People 2010 Objectives

	MAMMOGRAM EVER, AGE 40+		MAMMOGRAM IN PAST TWO YEARS, AGE 50+		CBE IN PAST 2 YEARS, ALL WOMEN	
	%	95% CI	%	95% CI	%	95% CI
Worcester %	89.5%	86.4 – 92.6%	82.3%	77.6 – 87.0%	82.0%	78.5 – 85.6%
Massachusetts %	90.5%	89.4 – 91.5%	82.8%	81.1 – 84.5%	82.8%	81.6 – 83.9%
US Median %	84.7%	N/A	75.2%	N/A	76.9%	N/A
Healthy People 2010	N/A	N/A	N/A	N/A	N/A	N/A

SECTION 15: CERVICAL CANCER SCREENING

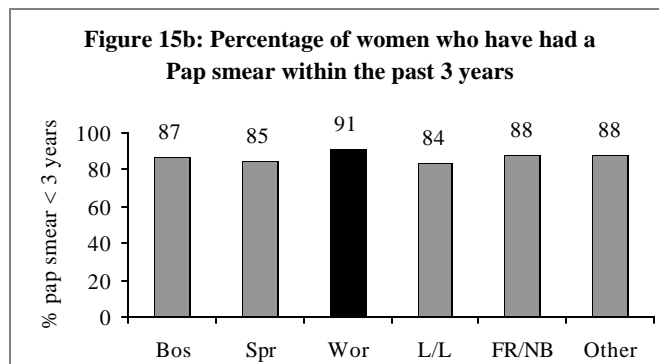
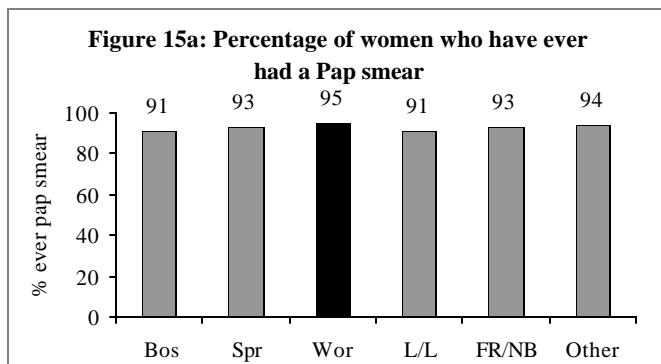
All female respondents were asked about frequency of cervical cancer screening. This analysis examines the percentage of all women who ever had a Pap smear and, among women without a hysterectomy, the percentage who had a Pap smear in the past 3 years.

During 1997 to 1999, 95% of all Worcester women reported ever having a Pap smear. Overall, 91% of Worcester women had a Pap smear in the past 3 years. Women ages 18 to 44 were more likely to have had their Pap smear in the past 3 years. The percentage of women who had a Pap smear in the past 3 years decreased with increasing age. Women with at least one year of college were more likely to have had a Pap smear in the past 3 years.

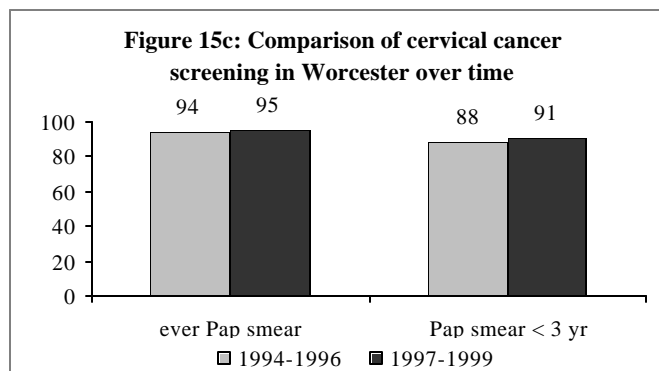
CERVICAL CANCER SCREENING AMONG WORCESTER WOMEN, 1997-1999 (PERCENTAGES AND 95% CONFIDENCE INTERVALS)				
	PAP SMEAR EVER		PAP SMEAR IN PAST 3 YEARS ¹	
	%	95% CI	%	95% CI
OVERALL	94.7	93.0 – 96.4	90.5	88.1 – 92.9
AGE GROUP				
18-29	95.7	92.2 – 99.2	95.7	92.1 – 99.2
30-44	95.2	92.4 – 98.1	92.2	88.5 – 95.9
45-64	95.6	92.4 – 98.8	85.1	78.2 – 91.9
65 AND OLDER	91.7	87.5 – 95.9	83.4	76.3 – 90.4
RACE / ETHNICITY				
WHITE, NON-HISP.	95.1	93.3 – 97.0	90.5	87.7 – 93.2
ALL OTHER	93.2	88.8 – 97.5	93.0	88.3 – 97.7
BLACK, NON-HISP.	†		†	
HISPANIC	95.3	90.5 – 100	95.4	90.2 – 100
EDUCATION				
< HIGH SCHOOL	89.6	83.0 – 96.1	83.4	73.8 – 92.9
HIGH SCHOOL	94.5	91.2 – 97.8	84.7	79.2 – 90.3
COLLEGE 1-3 YRS	95.4	92.6 – 98.3	95.0	91.9 – 98.2
COLLEGE 4+ YRS	96.1	93.4 – 98.7	94.3	90.9 – 97.7
HOUSEHOLD INCOME				
< \$25,000	93.8	90.0 – 97.5	87.6	82.1 – 93.1
\$25-34,999	95.7	91.8 – 99.5	91.9	86.3 – 97.6
\$35-49,999	97.7	95.2 – 100	92.4	87.1 – 97.7
\$50,000+	96.6	93.3 – 99.8	94.2	89.9 – 98.5

† Insufficient sample size

¹ Among women without a hysterectomy



Compared with the state as a whole, a similar percentage of Worcester women reported having ever had a Pap smear. Among the selected cities, the percentage of women who have had a Pap smear ranged from 91% in Boston and Lawrence/Lowell, to 95% in Worcester (Figure 15a). Compared with the state as a whole, a higher percentage of Worcester women have had a Pap smear within the past 3 years. Of the selected cities, the percentage of women who had a Pap smear within the past 3 years ranged from 85% in Springfield to 91% in Worcester (Figure 15b).



Compared with 1994 to 1996, the percentage of Worcester women who ever had a Pap smear and the percentage who had a Pap smear in the past 3 years were similar during 1997 to 1999 (Figure 15c). Worcester did not meet the HP 2010 objective for the percentage of women who have ever had a Pap smear, but did meet the objective for the percentage of women who have had a Pap smear in the past 3 years.

CITY LEGEND	
Bos	= Boston
Spr	= Springfield
Wor	= Worcester
L/L	= Lawrence/Lowell
FR/NB	= Fall River/New Bedford
Other	= Other Localities

Comparison with State-wide data, National data, and Healthy People 2010 Objectives

	PAP SMEAR EVER		PAP SMEAR IN PAST 3 YEARS	
	%	95% CI	%	95% CI
Worcester %	94.7%	93.0 – 96.4%	90.5%	88.1 – 92.9%
Massachusetts %	93.5%	92.7 – 94.3%	87.8%	86.7 – 88.9%
US Median %	94.9%	N/A	85.1%	N/A
Healthy People 2010	97%	N/A	90%	N/A

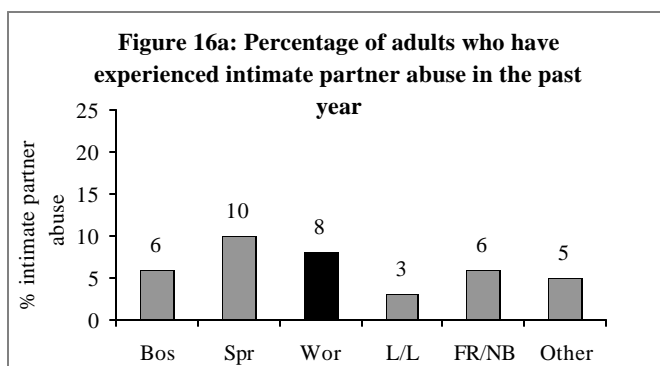
SECTION 16: INTIMATE PARTNER ABUSE

During 1997 and 1998, all women ages 18 to 59 were asked questions about physical or emotional abuse, and in 1999, all adults ages 18 to 59 were asked these questions. This analysis examines the percentage of women ages 18 to 59 experiencing intimate partner abuse, defined as having been physically hurt, threatened or controlled by a current or ex - husband, live - in partner, or boyfriend or girlfriend in the past year.

During 1997 to 1999, 6% of Worcester women ages 18 to 59 reported intimate partner abuse in the past year. Women of lower income were more likely to have experienced intimate partner abuse. Hispanic women were more likely than White non-Hispanic women to have experienced intimate partner abuse in the past year. The percentage of women who have experienced partner violence decreased with increasing age and education levels.

INTIMATE PARTNER ABUSE AMONG WORCESTER WOMEN AGE 18-59, 1997-1999 (PERCENTAGES AND 95% CONFIDENCE INTERVALS)		
	INTIMATE PARTNER ABUSE, PAST 12 MONTHS, WOMEN AGES 18-59	
	%	95% CI
OVERALL	5.5	5.8 – 13.1
AGE GROUP		
18-29	9.2	3.2 – 15.2
30-44	5.1	2.3 – 7.9
45-59	0.6	0.0 – 1.8
RACE / ETHNICITY		
WHITE, NON-HISP.	3.6	1.5 – 5.8
ALL OTHER	12.9	3.6 – 22.2
BLACK, NON-HISP.	†	†
HISPANIC	17.2	3.7 – 30.7
EDUCATION		
< HIGH SCHOOL	17.2	3.4 – 31.1
HIGH SCHOOL	6.5	0.7 – 12.2
COLLEGE 1-3 YRS	4.8	0.9 – 8.7
COLLEGE 4+ YRS	2.1	0.0 – 4.2
HOUSEHOLD INCOME		
< \$25,000	8.9	2.4 – 15.4
\$25-34,999	6.1	0.0 – 13.1
\$35-49,999	1.9	0.0 – 4.7
\$50,000+	2.5	0.0 – 5.0

† Insufficient sample size



CITY LEGEND	
Bos	= Boston
Spr	= Springfield
Wor	= Worcester
L/L	= Lawrence/Lowell
FR/NB	= Fall River/New Bedford
Other	= Other Localities

Compared with the state as a whole, a similar percentage of Worcester women ages 18 to 59 have experienced intimate partner abuse in the past 12 months. Among the selected cities, the percentage of women ages 18 to 59 who have experienced partner abuse in the past year ranged from 3% in Lawrence/Lowell to 10% in Springfield (Figure 16a).

Data regarding intimate partner abuse are not available for 1994 to 1996.

Comparison with State-wide data, National data, and Healthy People 2010 Objectives

	INTIMATE PARTNER ABUSE, PAST 12 MONTHS WOMEN AGES 18-59	
	%	95% CI
Worcester %	5.5%	5.8 – 13.1%
Massachusetts %	5.5%	4.6 – 6.4%
US Median %	N/A	N/A
Healthy People 2010	N/A	N/A

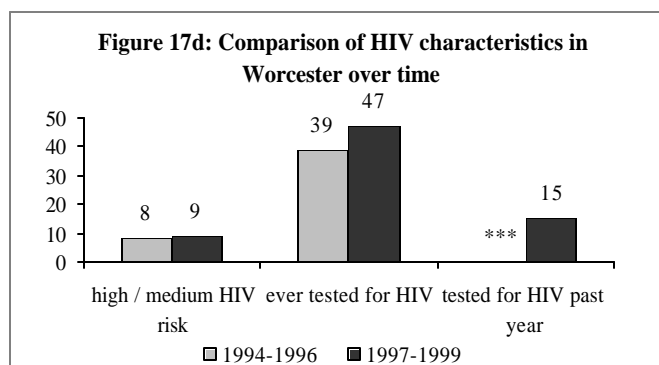
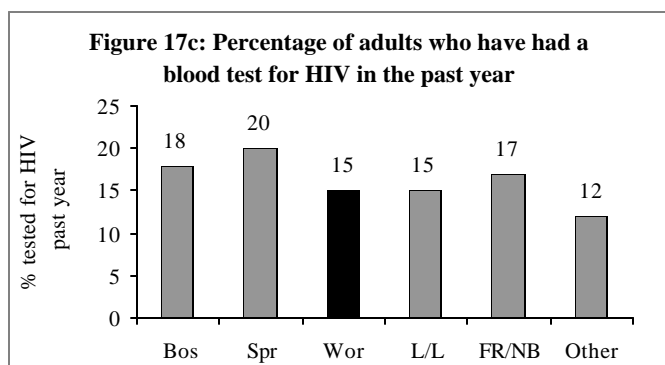
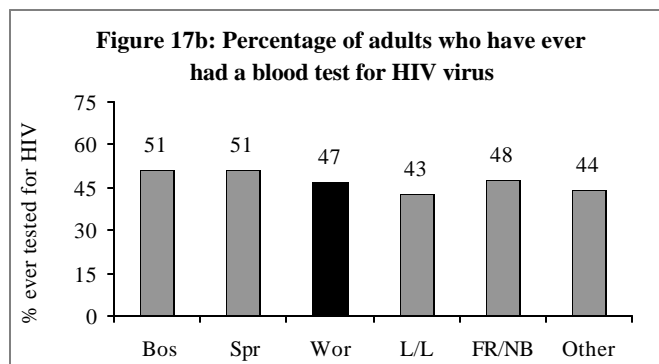
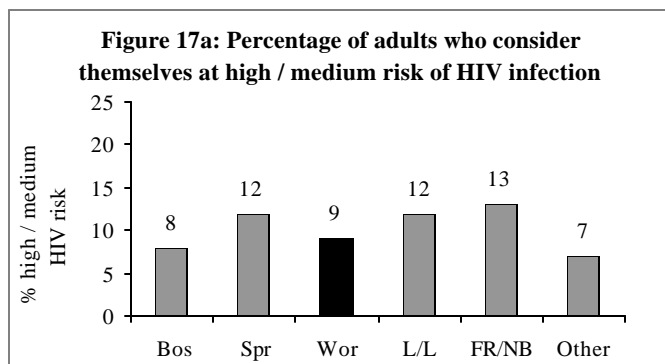
SECTION 17: HIV / AIDS RISK AND TESTING

All adults ages 18 to 64 were asked to assess their risk of contracting HIV, the virus that causes AIDS. All adults ages 18 to 64 were also asked if they had ever been tested for HIV, and if they had been tested in the past year.

Overall, 9% of Worcester adults said they had a medium to high risk of HIV infection. Men were more likely than women to report being at medium to high risk of HIV. Hispanics were more likely than White non-Hispanics to report being at medium to high risk of HIV. The percentage of adults who said they were at medium to high risk of HIV infection decreased with increasing age. Of all adults ages 18 to 64, 47% ever had an HIV test. Adults ages 45 to 64 were less likely to have had an HIV test. White non-Hispanics were less likely to have been tested for HIV than Black non-Hispanics and Hispanics. Fifteen percent of adults have been tested for HIV in the past year. Adults ages 45 to 64 were less likely to have had an HIV test in the past year.

HIV / AIDS AMONG WORCESTER ADULTS AGE 18 TO 64, 1997-1999 (PERCENTAGES AND 95% CONFIDENCE INTERVALS)						
	HIGH / MEDIUM RISK OF INFECTION		EVER TESTED FOR HIV		TESTED FOR HIV IN PAST YEAR	
	%	95% CI	%	95% CI	%	95% CI
OVERALL	9.1	6.9 – 11.3	47.0	43.1 – 50.9	14.7	11.8 – 17.5
GENDER						
MALE	12.2	8.5 – 15.8	47.7	42.0 – 53.4	15.6	11.3 – 20.0
FEMALE	6.4	3.9 – 8.9	46.4	41.1 – 51.7	13.7	10.0 – 17.5
AGE GROUP						
18-29	11.6	7.0 – 16.3	51.2	44.2 – 58.2	19.8	13.7 – 25.9
30-44	9.4	6.1 – 12.6	54.9	48.9 – 60.8	16.1	11.8 – 20.5
45-64	6.0	2.8 – 9.2	32.0	24.4 – 39.6	6.8	3.1 – 10.5
RACE / ETHNICITY						
WHITE, NON-HISP.	8.3	6.0 – 10.6	43.7	39.4 – 48.0	13.5	10.4 – 16.6
ALL OTHER	13.4	7.0 – 19.9	62.3	53.4 – 71.2	20.4	12.7 – 28.1
BLACK, NON-HISP.	8.9	0.0 – 18.2	†	†	†	†
HISPANIC	16.4	6.6 – 26.1	66.3	55.3 – 77.3	23.3	12.4 – 34.2
EDUCATION						
< HIGH SCHOOL	10.0	2.0 – 18.0	50.5	38.2 – 62.7	18.5	8.2 – 28.8
HIGH SCHOOL	4.3	1.7 – 6.8	45.3	38.0 – 52.7	12.3	7.4 – 17.1
COLLEGE 1-3 YRS	11.7	7.1 – 16.3	48.2	44.6 – 55.4	17.0	11.5 – 22.6
COLLEGE 4+ YRS	10.9	6.6 – 15.2	46.6	39.9 – 53.4	13.6	8.6 – 18.6
HOUSEHOLD INCOME						
< \$25,000	12.8	7.6 – 17.9	53.8	46.3 – 61.3	21.1	14.1 – 28.0
\$25-34,999	11.4	5.0 – 17.8	45.7	35.8 – 55.6	10.2	3.8 – 16.7
\$35-49,999	7.8	3.1 – 12.5	52.8	42.8 – 62.8	15.3	8.2 – 22.4
\$50,000+	7.9	4.0 – 11.8	41.9	34.7 – 49.1	12.8	7.7 – 17.9

† Insufficient sample size



*** Data not available for 1994-1996

CITY LEGEND	
Bos	= Boston
Spr	= Springfield
Wor	= Worcester
L/L	= Lawrence/Lowell
FR/NB	= Fall River/New Bedford
Other	= Other Localities

Compared with the state as a whole, a similar percentage of Worcester adults ages 18 to 64 described their risk of HIV infection as medium to high. Among the selected cities, the percentage of adults ages 18 to 64 who described their risk of HIV infection as medium to high ranged from 8% in Boston to 13% in Fall River/New Bedford (Figure 17a). Compared with the state as a whole, a similar percentage of Worcester adults ages 18 to 64 have had a blood test for HIV.

The percentage of adults ages 18 to 64 who have ever had a blood test for HIV ranged from 43% in Lawrence/ Lowell to 51% in Boston and Springfield (Figure 17b). Compared with the state as a whole, a similar percentage of Worcester adults ages 18 to 64 have been tested for HIV within the past year. Among the selected cities, the percentage of adults ages 18 to 64 who have been tested for HIV in the past year ranged from 15% in Worcester and Lawrence/Lowell to 20% in Springfield (Figure 17c).

Compared with 1994 to 1996, the percentage of Worcester adults reporting high to medium risk of HIV infection was similar during 1997 to 1999 (Figure 17d). Compared with 1994 to 1996, the percentage of Worcester adults who have been tested for HIV increased during 1997 to 1999.

Comparison with State-wide data, National data, and Healthy People 2010 Objectives

	HIGH / MEDIUM RISK OF INFECTION		EVER TESTED FOR HIV		TESTED FOR HIV IN PAST YEAR	
	%	95% CI	%	95% CI	%	95% CI
Worcester %	9.1%	6.9 – 11.3%	47.0%	43.1 – 50.9%	14.7%	11.8 – 17.5%
Massachusetts %	7.3%	6.6 – 8.1%	43.6%	42.1 – 45.1%	13.3%	12.3 – 14.2%
US Median %	6.3%	N/A	N/A	N/A	N/A	N/A
Healthy People 2010	N/A	N/A	N/A	N/A	N/A	N/A

GLOSSARY

Confidence Interval: The BRFSS surveys a random sample of the Massachusetts adult population and generalizes the results to estimate the true prevalence of disease or behaviors of the entire population. Two successive surveys of the same population may not yield the same estimate of a health behavior, simply due to the random selection process. For example, if we conduct two identical surveys of smoking prevalence at the same time, we may have two different estimates smoking prevalence, even though the true underlying proportion of smokers in the population is unchanged.

The percent estimate usually provides a good approximation of the underlying truth, although there are a range of values that may be consistent with the data. This range is called a confidence interval. A 95% confidence interval can be considered to be a range of values that has a 95% chance of including the true proportion, given that the data were not biased in any way. The confidence interval describes the precision of an observed estimate of the underlying proportion, with a wider interval indicating less certainty about this estimate. The main factor affecting the width of the confidence interval is the number of respondents.

A 95% confidence interval can be considered a range of values that has a 95% chance of including the true proportion.

Readers should note that not all values within the confidence interval are equally likely. Values close to the estimate are more likely than values near the end points of the confidence interval. For example, the estimate for the percent of adults in Massachusetts who are current smokers is 20.2%. The 95% confidence interval for this estimate is 18.9 - 21.5%. However, upon repeated surveys, half of the values would be expected to fall within the range 19.7- 20.6%.

Healthy People 2010 Objectives: The Healthy People 2010: National Health Promotion and Disease Prevention Objectives are a national agenda that aim to significantly improve the health of Americans in the decade preceding the year 2010. Developed through an extensive governmental, professional, and public national process, Healthy People 2010 defined two broad national goals: to increase quality and years of healthy life and to eliminate health disparities. These goals were supported by 476 specific objectives that set priorities for public health during first decade of the 2000's. The objectives were organized into 28 priority areas such as tobacco, overweight, and diabetes. For each objective, a numeric national target for the year 2010 was set. For each health

Healthy People 2010 seeks to: increase quality and years of healthy life, to reduce health disparities.

status indicator in this report that has a corresponding Healthy People 2010 Objective, the year 2010 target is shown in the relevant graphs and tables.

Median: The median is the middle observation for a set of observations; i.e. the value that divides the frequency distribution into halves. It is also equal to the 50th percentile. For example, the US median represents the point at which half of the states have a higher estimate than the median and half have a lower estimate.

KEY LINKS

Health Survey Program: The Health Survey Program is part of the Bureau of Health Statistics, Research and Evaluation at the Massachusetts Department of Public Health. Additional information about the program including other state publications can be found on our website located at:

<http://www.state.ma.us/dph/bhsre/cdsp/brfss/brfss.htm>, link to our program.

MassCHIP: Data on selected variables from the Massachusetts BRFSS are available through the Massachusetts Community Health Information Profile (MassCHIP), an Internet - accessible information service available from the Massachusetts Department of Public Health. Information about how to register as a MassCHIP user is available at: <http://masschip.state.ma.us/>.

National BRFSS data: There is a national BRFSS website as part of the Centers for Disease Control and Prevention, which provides information about the BRFSS, includes listings of publications and questionnaires, provides national data on selected variables, and includes links to relevant websites. The national BRFSS website is located at: www.cdc.gov/nccdphp/brfss/. A downloadable document that describes all aspects of the BRFSS and survey methodology is located at:

<http://www.cdc.gov/nccdphp/brfss/pdf/userguide.pdf>.

Healthy People 2010 website: The Healthy People Objectives has been coordinated by the U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion. Information on the health prevention goals, priority areas, measuring progress in the health indicators and other pertinent information can be found on the Healthy People 2010 homepage at: <http://www.health.gov/healthypeople/>.

ACKNOWLEDGEMENTS

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We wish to express our gratitude to the residents of Massachusetts who participated in this survey, and to ORC Macro, Inc. and the dedicated interviewers who helped make this survey possible.

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